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Oil, Paint and Drug Reporter

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Volume 152 No. 20 November 17, 1947

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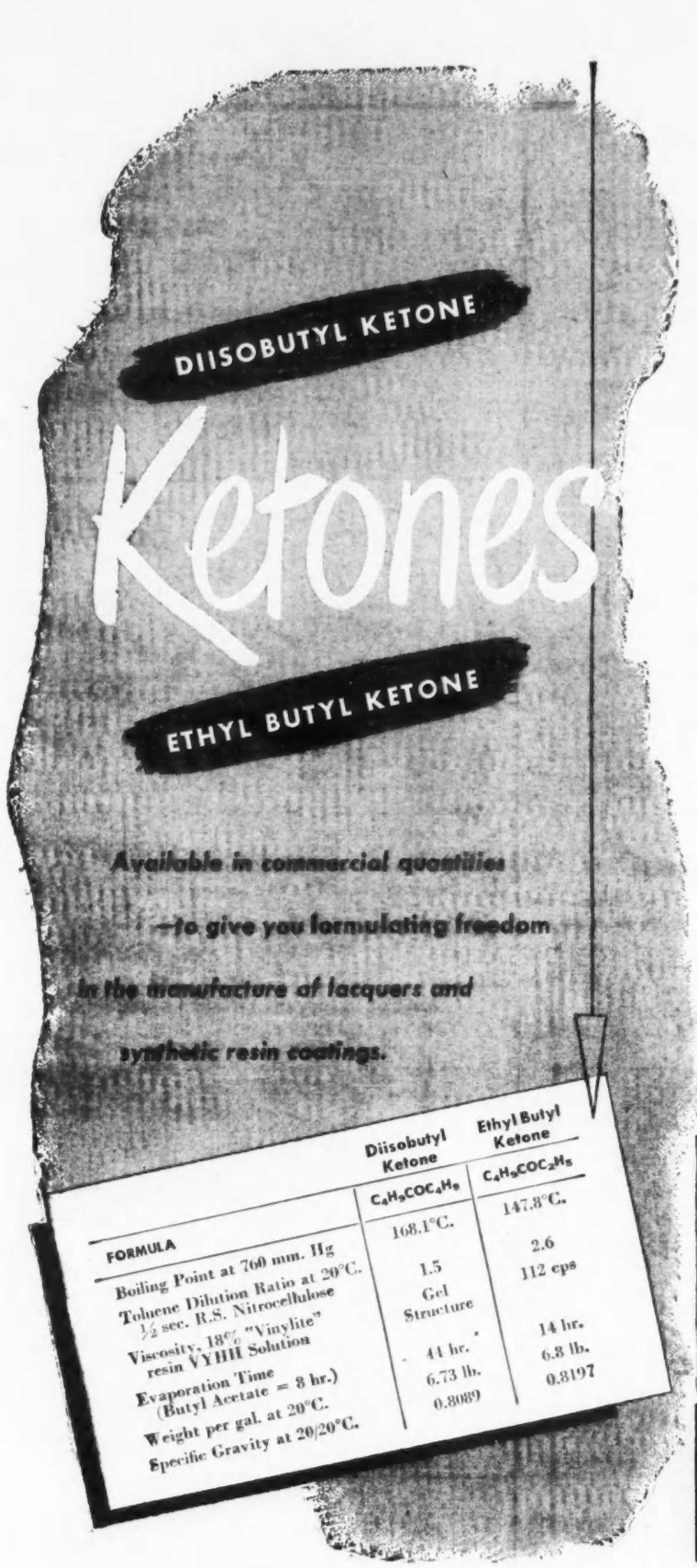

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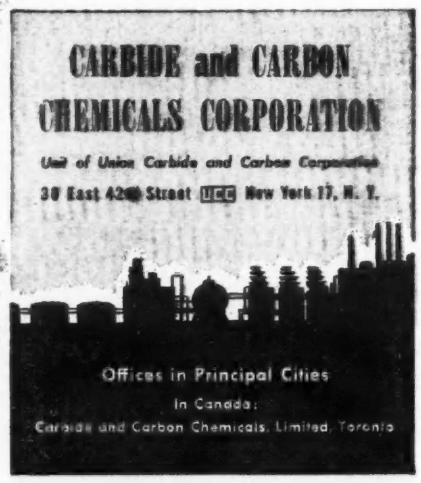
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Oil, Paint and Drug Reporter

Volume 152 No. 20 | New York 7, N. Y. | November 17, 1947

Chemical Needs of Italy, Austria, France Listed

OPD Washington Bureau

A stop-gap aid program totaling $597,000,000 to help France, Italy and Austria through the months of December through March, pending action on the broader program of European aid involved in the Marshall plan, was proposed to Congress last week by the administration.

Of this total $301,000,000 is estimated to be spent for food; $184,000,000 for coal; $35,000,000 for petroleum; $38,000,000 for cotton; $35,000,000 for fertilizer, pesticides and seed; and $4,000,000 for medical supplies. In addition the three countries plan to spend from their own resources a total of $34,700,000 for chemical materials, including rubber and rubber processing materials.

As explained to the house and senate committees as they got down to work on the program last week by Secretary of State George Marshall and Secretary of Commerce W. Averell Harriman, the needs of Austria for assistance from the United States during the four months period amounts to $42,000,000; those of France, $328,000,000 and those of Italy, $227,000,000.

Of the amount to be available to France, $9,000,000 is needed for fertilizers, while France intends to spend $20,000,000 out of its own resources for materials for the chemical industry. What portion of the chemical items will be obtained from the United States was not shown, but it was presumed that a substantial amount of the total would be spent for items here.

Listed as France's chemical item requirements for the period were the following:—Sulphur, $1,000,000; benzene products, $1,000,000; carbon black, $1,000,000; pigments and paints, $1,000,000; rubber and rubber products, $3,500,000; pharmaceuticals, $1,500,000; other organics, $6,000,000; other inorganics, $5,000,000.

In commenting on the $9,000,000 requirement for fertilizers, for France, Secretary Marshall explained:—

"As of November 1, 1947, the French had not taken up any of their 1947-48 allocation of nitrate fertilizers from the United States and Canada amounting to 22,900 metric

—*Continued on page 57*

Fertilizer Cooperatives Tax Increase Asked

OPD Washington Bureau

Congress was urged last week to wipe out the special tax advantages now enjoyed by farmer cooperatives in the distribution of fertilizers so as to equalize the competition between these organizations and regularly established corporate enterprises engaged in this business.

The appeal was made to the house ways and means committee by Irving D. Dawes, vice-president and treasurer of Virginia-Carolina Chemical Corporation, Richmond, Va. He said that the Seven States Cooperative, Inc., of Richmond, which competes with his firm in manufacture and sale of fertilizers, had to pay a tax last year of only $116,946, against a tax that a corporation doing the same business would have paid of nearly $529,000 to the Federal government alone.

During the ten year period 1937 to 1946, he said, assets of Southern States increased from $1,414,000 to $12,685,000. Last year its sales volume totaled more than $67,750,000. Its earnings last year totaled $1,392,000 on which it paid no taxes, while Virginia-Carolina had earnings of $2,277,000, on which it had to pay $1,575,000 in Federal taxes.

"With the ability to expand its facilities and at such speed this cooperative and all the others similarly favored will be able to capture an increasing proportion of the available business," Mr. Dawes said. "This will make smaller and smaller the proportion belonging to taxable business and if government revenue is to be maintained such business will then have to be taxed at higher and higher rates.

"These cooperatives are, in every respect, business concerns just like our own. They live and breath just like we do, by manufacturing and distribution economies, by efficient operation, by shrewd purchasing and all the rest. They have the same right to live and prosper that anyone else has, but they do not need and should not have this great tax advantage that gives them 100 cent dollars for the same effort that give most of the rest of us only 62 cent ones."

Nitrogen Works Offered On Twenty-Year Lease

OPD Washington Bureau

The Army's Cactus Ordnance Works at Etter, Tex., will be leased to private industry on a twenty-year basis. Private interests will be allowed to take over the plant on the specific condition that they will complete certain construction that will double present capacity.

The plant is now being operated by the army for the production of fertilizers for the occupied areas of Europe and Japan. It is producing annually about 60,000 tons of nitrogen for fertilizer but a substantial portion of the facilities are partially installed or warehoused to add another 50,000 tons to the total.

Barbiturates Control Law Proposed for N.Y. State

New York State Senator Thomas C. Desmond has announced that he will introduce a bill to control the sale of barbiturates in that state when the legislature convenes in January. The senator said that the proposed legislation will forbid any druggist to refill a barbiturates prescription unless a physician specifically authorizes such refill.

In addition, he said, no refills will be permitted prior to the time called for by the physician, nor, in any event, after a period of three months. The bill, he explained, will be modeled after the regulation recently adopted by the New York City Board of Health, which became effective on November 1. It is intended to bring the state law into accord with that regulation.

Jap Lead Scrap Sold

OPD Washington Bureau

Reconstruction Finance Corporation has announced that its subsidiary, U. S. Commercial Company, has sold on sealed bids approximately 881 short tons of Japanese lead scrap in ingot form. Sale was made f.o.b. cars, Howland Hook, Staten Island, New York. The average price received was 16.011 cents per pound. The successful bidders were:—

American Metal Company, Ltd., New York; American Smelting & Refining Company, New York; L. Goldstein's Sons, Philadelphia, and Standard Rolling Mills, Inc., Brooklyn, N. Y.

FDA Powers Strengthened By Appeals Court Decisions

OPD Washington Bureau

Two new interpretations have been placed on section 301 of the Federal food, drug, and cosmetic act by the United States Circuit Court of Appeals for the Seventh Circuit which will materially strengthen the hand of the government in controlling the movement in interstate commerce of products in violation of the act, officials of the Food and Drug Administration announced last week.

In the first instance the court has ruled that companies whose products are manufactured for them by another are held responsible for the purity of the product in interstate commerce. The rule was made on an appeal by Parfait Powder Puff Company, Inc., from a conviction in district court.

In the second case, the court held that literature of a company producing health foods need not physically accompany the products of the company to be considered a part of the labeling. This ruling came on an appeal by Lelord Kordel from a conviction by the trial court.

Officials of FDA said that the two decisions are in line with the construction of the law which the agency has been following for a number of years. Although previous court tests have been instigated on similarly stated facts, these two decisions are expected to materially aid the government in its law enforcement work.

The facts in the case of the first decision were these:—the Parfait company, engaged in the manufacture and sale of cosmetic products, entered into a contract with Helfrich Laboratories in 1943, whereby the latter agreed to manufacture, place in packages and distribute to defendant's customers hair lacquer pads. Defendant supplied Helfrich with jars, caps, labels, display cards, flannel pads, and shipping containers. Helfrich impregnated the pads with a shellac lacquer, placed them in labeled jars bearing defendant's name, shipped the packages, in accordance with shipping directions furnished by defendant, consigned by defendant to its purchasers as consignees, and rendered bills to defendant for the commodity.

Gum Substituted

The sample submitted by Helfrich, when the arrangement was first made, was tested by defendant and found satisfactory. Later, without defendant's knowledge, so far as the record discloses, Helfrich substituted a gum for shellac in the lacquer, for the reason, claimed, that it was impossible to obtain shellac. This element proved to be deleterious in use. As soon as defendant

—*Continued on page 68*

Soybean, Cottonseed Oil Buying Planned by CCC

OPD Washington Bureau

The Commodity Credit Corporation will purchase crude soybean oil, once-refined soybean oil, bleachable prime summer yellow and prime summer yellow cottonseed oil, all in bulk.

In the case of crude soybean oil, the quality is to be in accordance with Rule 102 in the 1946-47 Year Book and Trading Rules of the National Soybean Processor Association. The once-refined soybean oil shall be clear, sweet in flavor and odor, shall be free from water and settlings, shall contain not more than 0.25 percent free fatty acid as oleic, and not in excess of 0.5 percent dissolved moisture. The quality of the cottonseed oil shall be as defined in Rules 61 and 66, respectively, of the National Cottonseed Products Association.

Offers may be made for shipment in buyers' or sellers' tankcars, but preference may be given to sellers' tankcar offers. Tankwagons will be acceptable for delivery to CCC storage. For crude soybean oil, all offers shall be f.o.b. mill location for basis grade oil. For the other grades of soybean and cottonseed oils the offers shall be made basis either New York or New Orleans delivery, or both.

Weed Control Conference To Meet February 12-13

The Northeastern States Weed Control Conference will meet at the Commodore hotel, New York, on February 12-13. Although the program for the meeting has not been completed, it is planned to have presented technical papers setting forth the latest available information on both materials and methods of controlling weeds in the Northeast.

The organization has extended an invitation to all interested persons to attend the conference. Those interested should notify Dr. Benjamin Wolf, chairman of the program committee, Northeastern States Weed Control Conference, Seabrook Farms, Bridgeton, N. J.

Chemical Consultants To Reopen Discussion

Because of lack of time—trains must be caught—and other reasons, discussion of the subject of chemical research by institutions of learning was somewhat curtailed at the meeting, October 28, of the Association of Consulting Chemists and Chemical Engineers. Many members of the association have subsequently expressed the view that the matter then presented by Dr. A. M. Palmer, of the National Research Council, had not got proper attention in the prearranged commentaries.

So, it has been decided to reopen the subject for "controversial discussion" at a meeting, November 21, in the Chemists' Club, New York. In order that adequate time may be had, this meeting will be started at 4:30 p.m., instead of the customary 8:30 p.m.

Anti-Hog-Cholera Serum Rules Change Hearing Set

OPD Washington Bureau

A number of changes are proposed to be made by the Bureau of Animal Industry in its administrative rules and regulations relating to handling of anti-hog-cholera serum and hog-cholera virus, it was announced by the Department of Agriculture last week.

One of the aims of the changes will be to give the control agency which is set up under the marketing agreement, a closer check over the classification of handlers and wholesalers. Text of the proposed rules and regulations was published in the Federal Register of November 13 with a notice to interested parties that public hearings would be held December 1 at the Stevens hotel, Chicago.

Price Trend Continues to Climb

Basic conditions were but little changed last week in the markets for chemicals, oils, and drugs, and the price-boosting influences which had been effective continuously since the middle of October remained in control. Fatty oils and their derivatives were the most potent contributor. They got help from their derivatives and menthol in the drug area. The average general price index was raised a further 0.4 point, making a net gain of 0.3 point (from —0.2 to +0.1) in comparison with 1946, but it is still 0.5 point below the yearend mark.

Some heavy chemicals got drawn or pushed into the areas of changing price views: not all of them were on the up side. Higher production costs brought advances in chloroacetic and pyroligneous acids and in cyanamide. Seasonal and competitive influences caused reductions in sodium silicofluoride and thallium sulphate and similarly affected cube root and pyrethrum.

All the big domestic vegetable oils were again advanced. Their fatty acids got similar treatment. And the price of glycerin was raised substantially. Tung oil and coconut oils are higher, largely by reason of holders' desires. The closing of the fishing season was reflected in higher prices on fish oils and fishmeal. Castor beans were cut again, but the effect did not yet reach the oil. Animal oils were unchanged, but milk powders, dried blood, and tankage responded to increased demands. Lessened supplies had the same effect on quotations on beeswax and carnauba.

Spices were mostly on the up side, led by black pepper and cloves. The down side differed in several instances only with respect to where the article came from. Aromatic oils were a bit lower net, all changes being in the imported groups. Bois de rose linalool and linalyl acetate were again reduced. Ergot was down, and some quinine salts were higher.

Export commitments in relief programs are beginning to cut into domestic supplies of inorganic nitrogenous fertilizer materials. Inadequate supplies of sulphuric acid are handicapping production of superphoshate and ammonium sulphate. Freightcars are more plentiful for potash shipments, but lack of tankcars is resulting in the refusal of big orders for chlorine, more of which could be produced but could not be stored.

OPD Price Index

The Oil, Paint and Drug Reporter's relative record of prices for chemicals and related materials is currently as follows:—

Nov. 14, 1947	Nov. 7, 1947	Nov. 14, 1946
148.8	148.4	148.7

The base of the OPD Price Index is the average of prices in 1926 and 1936, those years representing extremes of price undulations in the interwar period.

OPD Index Monthly Averages

	1947	1946	1945	1941
January	150.9	135.3	133.0	107.8
February	151.9	135.4	133.2	110.3
March	154.9	135.2	132.7	111.9
April	152.3	134.9	132.2	115.5
May	145.9	135.1	132.5	118.2
June	143.9	135.4	132.5	121.9
July	142.5	137.7	133.5	125.5
August	140.4	136.6	133.9	128.2
September	141.9	137.0	134.0	130.4
October	145.9	143.1	133.5	133.2
Year's average	*147.1	138.8	133.8	123.2

* Ten months.

Ampule Purity Testing Machine To Be Built

OPD Washington Bureau

Work on an electronic device for the detection of foreign matter in ampules is so well advanced that funds are to be made available to begin the development of the machine itself, it was reported last week at a meeting of the Contact Committee of the American Drug Manufacturers Association and the American Pharmaceutical Association.

Research work on the machine has been carried on by the RCA-Victor Company. There was no indication given at the meeting when the device will be completely assembled, tested and put on the market.

The committee met to receive reports of its various subcommittees on a number of other studies now being made on various methods of assaying and testing pharmaceuticals for possible recommendation to the revision committees of the NF and USP. About seventy representatives of the industry and the Food and Drug Administration attended the two-day meeting.

Progress was reported on a number of projects that have been under study for a considerable period, including tablet disintegration and chemical assaying of ergot, and considerable discussion also was had on assay methods for folic acid and mixtures and estrogen substances. It was possible, it was stated, that the report on chemical assay of ergot will be finished in time to pass the suggestion along to the NF revisions committee.

Interior Dept. to Receive Bids on Royalty Oil

OPD Washington Bureau

Bids were invited last week by the Department of Interior for the sale of government royalty oil in Wyoming and Montana. The offer is being made under the mineral leasing act passed last year, which gives the owners of small refineries with insufficient supplies a preference to buy such oil to maintain operation of their refineries.

The sale by competitive bidding will cover royalty oil under seven items in monthly volumes of about 3,200 barrels from the Cat Creek field, Montana; 4,800 barrels from the La Barge field, Wyoming; 1,600 barrels from the Rock Creek field, Wyoming; 3,000 barrels from the South Elk Basin field, Wyoming, and 45,000 barrels from the Elk Basin field, Wyoming and Montana. Bids will be received in the office of the director of the Geological Survey, Department of Interior, Washington 25, D. C., up to December 4 and will be opened on that date.

Bakelite Develops New Phenolic Varnish Resin

A new pure phenolic varnish resin has been announced by the Bakelite Corporation designated as "BR-9400". The new resin is claimed to body soft oils faster than the Navy Specification 52-R-10 type resin, and to dry faster. Complete mineral spirits tolerance in varnishes of any oil length are among the outstanding characteristics of the resin. Such varnishes have a lesser tendency to skin, and better color characteristics are claimed for varnishes made with "BR-9400" than with other pure phenolic resins.

Of special interest at this time is the performance of the new resin in varnishes made with half tung oil and half soybean oil. A twenty-gallon oil length varnish is claimed to dry tack free in three hours and print free in four hours. The resin is priced considerably under the Navy Specification 52-R-10 types.

Rose Cited by Grocers For Nutrition Research

Dr. William C. Rose, professor of biochemistry at the University of Illinois, received the annual scientific award of the Grocery Manufacturers of America during a three-day annual meeting held in the Waldorf-Astoria hotel, New York, last week. He was cited for his "numerous fundamental contributions to the science of nutrition, more particularly by his studies of essential amino acids, the discovery, isolation and chemical indentification of threonine, and his leadership in nutritional biochemistry."

API Reelects Boyd

William R. Boyd, jr., has been reelected president of the American Petroleum Institute. Three vice-presidents have been reelected—Robert E. Wilson for refining; B. L. Majewski for marketing, and J. L. Hammond for producing. W. Alton Jones, president of Cities Service Oil Company, was elected president of transportation.

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Amer. Potash Expansion Program Progressing

American Potash & Chemical Corporation has completed the first phase of its postwar expansion program with the finishing of a new $300,000 research laboratory, a modern office building, and a subdivision of forty-seven homes to increase plant housing facilities.

The program, which contemplates the expenditure of more than $7,000,000, calls for the completion in 1948 of a new $4,500,000 soda ash-borax plant and a $2,000,000 power plant expansion. The new plant is expected to increase the company's soda ash production by approximately 70 percent, and raise its borax output approximately 30 percent. The power plant expansion will increase electrical generating capacity sufficiently to provide power for the expansion of all departments.

B.J.C. van der Hoeven Advanced by Koppers

B. J. C. van der Hoeven has been appointed assistant general manager of the chemical division of the Koppers Company. Mr. van der Hoeven joined the research department of the company in 1926, and in 1942 was made manager of operations of its Kobuta, Pa., styrene and butadiene plant. Since early last year he has been chief of the company's chemical engineering department, engineering and construction division.

AIC Plans Discussion On Research Planning

A panel discussion "Planning and Carrying Out Research" will feature the meeting of the American Institute of Chemists to be held at the Downtown Athletic Club, New York, at 8 p.m., November 20. Among the speakers will be Dr. George A. Dalin, of Stauffer Chemical Company; Dr. M. L. Crossley, American Cyanamid Company, and Dr. Lincoln T. Work, Metal & Thermit Corporation.

Balto. Paint & Color Works Honored by Adv. Club

The Baltimore Paint & Color Works was guest of the Advertising Club of Baltimore at a recent meeting of the latter organization, in keeping with its custom of annually honoring one of the city's leading industries. Albert A. Shuger, partner in the paint company, presided over the meeting, together with Charles Webb, president of the Baltimore Paint, Varnish and Lacquer Association, and Howard A. Cantwell, president of the Baltimore Paint Production Club.

Nu-Enamel Corp. Elects H.H. Hall Vice-President

The Nu-Enamel Corporation, Chicago, has elected Herbert H. Hall, jr., a vice-president. Mr. Hall will continue to function as the organization's sales promotion manager. He joined the company in 1931 as a window demonstrator and was subsequently appointed store manager and division sales manager before receiving his present assignment.

G.E. Advances Willcox In Plastics Division

The General Electric Company, Pittsfield, Mass., has appointed T. Norman Willcox manager of the methods and equipment laboratory of the plastics division of its chemical department. Mr. Willcox joined the company in 1936 and was assigned to the plastics division in 1938. He has been section engineer of the methods and equipment laboratory since last February.

Drug Trade Conference To Meet December 10

The National Drug Trade Conference will hold its next meeting December 10 at the Statler hotel, Washington, D. C., it has been announced by the executive committee.

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Penick Buys New York Quinine & Chemical

S. B. Penick & Co., drug manufacturer, New York, has completed arrangements for the purchase of the New York Quinine & Chemical Works, Inc., Brooklyn, N. Y. S. B. Penick, jr., president of the Penick firm, who made the announcement last week, did not reveal the amount of the consideration involved.

New York Quinine was established in 1885 as a subsidiary of the original McKesson & Robbins firm. In 1925 it was sold to a group headed by Irving McKesson and Frank J. McDonough. Its principal products of manufacture are mercurials, iodides and quinine and its salts. It also makes opium derivatives, codeine and morphine.

Present plans call for the continuation of New York Quinine's business along its established lines, according to Mr. Penick.

Canadian Fertilizer 1946 Output Reported

Production of fertilizers in Canada during 1946 is reported to have been valued at $50,600,000. Included in this total was the output of twenty-three plants engaged solely in making mixed fertilizers; two superphosphate plants, which also made some mixtures, and three plants which made synthetic ammonia fertilizers.

Imports of fertilizers into Canada during 1946 totaled 254,749 tons, valued at $4,561,115. Included in this figure were 45,921 tons of basic slag, 78,247 tons of crude muriate of potash, and 95,532 tons of superphosphate. Exports during the same period totaled over $32,000,000. Included in the materials exported were 155,447 tons of ammonium sulphate, 141,142 tons of phosphate fertilizers, and 483,887 tons of other manufactured fertilizers, including ammonium nitrate and calcium cyanamide.

Surplus Materials and Equipment Offered

Chemicals and related materials currently offered as surplus by the War Assets Administration on closed bids to the dates given or at fixed prices as stated, include the following items:—

Atabrine, 2,094 boxes, San Francisco, SFO-41-518, November 21.

Charcoal, water purification, 320 lbs., Williamsport, Pa., PHO-OL-638, November 25.

Copper sulphate, U.S.P., 36,464 bottles, approx. 37 grams per bottle, Albany, N. Y., NYO-D2-OL-0294, November 25.

Dimethyl phthalate, sprayer type, 66,867 gallons; for impregnation of clothing, 1,470 gallons, Seattle, SEO-71-42826, December 8.

Electrolite acid, 3,134 bottles, San Francisco, SFO-41-518, November 21.

Grease, 3,005 lbs., Williamsport, Pa., PHO-OL-638, November 25.

Paint, various, several lots amounting to ap-

—*Continued on page 69*

Glidden Company Receives Portrait of A.D. Joyce

Employees of the Glidden Company, Pittsburgh, have presented the company with an oil portrait of Adrian D. Joyce, founder and board chairman of the organization. R. H. Horsburgh, vice-chairman of the board, who headed the committee which planned the gift, said that it was "a result of a spontaneous expression of affection, loyalty and respect of the members of the organization for one who has accomplished so much and who has played such a large part in their lives."

Oil Group Elects Gwaltney

J. Parks Gwaltney, secretary-treasurer of Gwaltney Oil Company, Durham, N. C., has been elected chairman of the National Council of Independent Petroleum Associations.

Foreign Market Lists

Lists of foreign outlets for chemicals and related materials and consumer goods recently compiled by the Commercial Intelligence Division of the United States Department of Commerce include the following, which are available from the division at $1 for a list for any one country:—

Oils (animal, fish, vegetable) importers, dealers, producers, refiners, exporters, Netherlands West Indies; Venezuela.

Petroleum industry, Ecuador.

Soap manufacturers, Cuba, Turkey.

Tanneries, Peru.

Textile industry, Peru.

Market Report

Menthol quotations ended the week at a minimum of $9 per pound and no substantial quantity was offered thereat. The range was to $9.25 in a very firm market.

European Fertilizer Requirements Detailed

OPD Washington Bureau

Impact of Western Europe's needs for additional quantities of fertilizer nitrogen upon the American fertilizer industry is expected to take the form of continued use by the government of set-aside orders imposed upon producers and may extend even to controls over the use of nitrogen to assure its consumption only for the most essential uses.

The revised estimate of Europe's import requirements of nitrogen, now placed at 440,000 tons as against the earlier estimate of 290,000, has posed a major problem for the government experts which they are now attempting to survey. Most of the discussion centers around the use of the set-aside orders, with heavy reliance being placed at the same time on voluntary cooperation by industry and consumers in seeing that the needs are met, but the use of conservation orders as well is not being overlooked.

The final word on the machinery that is to be employed in the European relief program will be given by Congress, which last week began work on the stop-gap program to carry Europe through the Winter months until the longer-range program involved in the Marshall plan can be considered next January. The administration will urge at that time that the export control act, now due to expire February 29, be extended, and possibly that some of the powers exercised during the war over the distribution of products which have since been repealed, be restored.

Europe's revised estimate of its fertilizer nitrogen needs was disclosed in the report of the Harriman committee made public by the White House. The higher figure now being used was due to the fact that the needs of France as stated in the report of the Paris conference were 100,000 tons less than they should have been, and another 40,000 to 50,000 tons had to be added to the total by adjustments in the requirements of other countries.

The 440,000-ton figure is given for the 1947-48 season, but no serious attempt is to be made to reach anything like this figure for this year. At the most, the Harriman committee said, it is unlikely that shipments

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Faesy & Besthoff Adds To Agricultural Line

Faesy & Besthoff, Inc., New York, has added to its agricultural line the all-mineral fertilizer supplement "Es-Min-El," manufactured by the Tennessee Corporation. The material contains manganese, copper, zinc, iron, boron and other mineral elements in a form readily available for assimilation by plants. Faesy & Besthoff stocks the supplement in its Hicksville, Long Island, warehouse, and supplies it in 100-pound bags and in five-pound bags packed ten to a carton.

Dixie Paint & Varnish Names Ayrault Vice-Pres.

Dixie Paint & Varnish Company, Brunswick, Ga., has appointed John Ayrault vice-president in charge of operations. Mr. Ayrault, who was formerly with the Enterprise Paint Manufacturing Company, Chicago, has been in the paint business since his graduation from Lehigh University in 1917.

Foreign Sales Leads

Anyone interested in supplying the following inquiries with goods or information can get the full address of the inquirer by communicating—not by telephone, please—with the OPD office:—

Castor oil extraction plant, Sao Paulo, Brazil (AS-11).

Caustic soda, Rio de Janeiro, Brazil (AS-10); Sao Paulo, Brazil (AS-13); Salvador, Brazil (AS-16); Curitiba, Brazil (AS-17).

Chemical process equipment, Bombay, India (AS-3).

Chemicals, Bombay, India (AS-4); Stockholm, Sweden (AS-9); Salvador, Brazil (AS-16).

Dyes, Bombay, India (AS-4); Stockholm, Sweden (AS-9).

Fish meal, Rotterdam, Holland (AS-7).

Lard, Rio De Janeiro, Brazil (AS-10); Recife, Brazil (AS-15).

Mineral oil, lubricating, Turin, Italy (AS-8).

Nutmeg, Bologna, Italy (AS-6).

Oxalic acid, Lisbon, Portugal (AS-1).

Paints, Managua, Nicaragua (AS-5); Brussels, Belgium (AS-2).

Pepper, Bologna, Italy (AS-6).

Photographic supplies, Salvador, Brazil (AS-18); Porto Alegre, Brazil (AS-19); Rio de Janeiro, Brazil (AS-20).

Plastics manufacturing equipment, Porto Alegre, Brazil (AS-14).

Potash, Salvador, Brazil (AS-16).

Potassium muriate, Sao Paulo, Brazil (AS-12).

Vegetable oils, textile industry, Turin, Italy (AS-8).

ACS 'Monographs' Editor

Dr. W. A. Hamor, assistant director of the Mellon Institute for Industrial Research, Pittsburgh, has been appointed editor of the American Chemical Society "Monographs." In this capacity he will have charge of the editing of the society's reports on research developments in chemical science.

International Minerals Borrows $12,000,000

International Minerals & Chemical Corporation, Chicago, has completed negotiations with the Prudential Insurance Company of America for $12,000,000 in new financing. In the form of a seventeen year loan, the financing carries interest at 3¼ percent. No payments against the principal are due until 1952, but prepayment privileges are a part of the agreement.

Louis Ware, president of International Minerals, stated that a portion of the money will be used to retire a current term bank loan of $6,625,000 and approximately $2,000,000 added to the working capital of the company. The balance, he said, will be reserved for plant expansion.

Fertilizer Industry's Role Under Marshall Plan Probed

The responsibilities and accomplishments of the American fertilizer industry in promoting the national food conservation program, and the implications on the fertilizer industry and on American agriculture if heavy fertilizer shipments are made to Europe under the Marshall plan, were the principal topics of discussion at the twenty-first annual convention of the National Fertilizer Association, held at the Atlanta-Biltmore hotel, Atlanta, Ga., on November 10-12.

Other subjects which were probed at the three-day parley were various suggestions for increasing fertilizer production above the present rate, which is now more than double the prewar output, and studies of some of the more recent agronomic and technical developments in connection with the use and application of fertilizer to secure larger and better quality crops.

The cooperation of the fertilizer industry in promoting the national food conservation program now in progress was pledged by Weller Noble, of the Pacific Guano Company, and chairman of the board of the association. At the same time he pointed out that the industry already laid the basis whereby the people of this country are in a position to provide vast supplies of foods to needy peoples abroad.

"Government authorities state," according to Mr. Noble, "that for the country as a whole, about 20 percent of the crop production is attributable to the use of fertilizers and that in some states the proportion is 50 percent or more. How could the nation fulfill the goals of its food conservation program if it were not for the service now being rendered to American agriculture by the fertilizer industry?"

Fertilizer Output Doubled

Mr. Noble said that the extent of this service is steadily increasing and estimated that in the current fiscal year 16,000,000 tons of fertilizer will come out of the plants and

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Bartlett Heads ACS Organic Division

Dr. Paul D. Bartlett, professor of chemistry at Harvard University, has been elected chairman of the organic division of the American Chemical Society. Dr. Bartlett succeeds Dr. Arthur C. Cope, chairman of the department of chemistry at the Massachusetts Institute of Technology. Dr. Ralph W. Bost of the University of North Carolina was reelected secretary of the division, and Dr. Ralph L. Shriner of Iowa State College, Dr. William G. Young of the University of California, and Dr. Cope were named to the executive committee.

Dr. Paul D. Bartlett

Synthetic Anodynes Study Inaugurated by NRC Unit

OPD Washington Bureau

Drug manufacturers interested in synthetic analgesics are being invited by the Committee on Drug Addiction and Narcotics of the National Research Council to submit their research data on isomers or derivatives of methadon (amidone dolophine, 10820, 4,4 - diphenyl-6-dimethylaminoheptanone-3) and other synthetic anodynes for comment and review by the committee.

It is the desire of the committee to explore the potential values of such drugs fully, and in the case of those products which manufacturers decide ultimately to market, the committee will make available its facilities and services for detailed studies on tolerance and addiction.

The invitation is being extended by Dr. Nathan B. Eddy, of the United States Public Health Service, who was named secretary of the NRC committee at a meeting last month attended by a number of government officials concerned with health problems, representatives of the American Drug Manu-

—*Continued on page 59*

Soybean Oil Purchased At 26.531c per lb.

OPD Washington Bureau

Purchase of 4,660,000 pounds of refined soybean oil for export at an average price of 26.531 cents per pound was announced last week by the Commodity Credit Corporation. Purchase was made under a bid offering of October 27, calling for 3,300,000 pounds.

An offer to purchase 2,200,000 pounds of hydrogenated soybean oil failed to bring in any bids from the trade up to the closing time of noon, November 5. Offers to sell the CCC crude soybean oil under a standing invitation calling for an indeterminate amount, have been turned down thus far by the agency because of price considerations.

Paper Chemistry Institute Adds Glidden to Staff

The Institute of Paper Chemistry, Appleton, Wisc., has appointed Dr. Kenneth E. Glidden research associate and has given him the position of group leader of its pulp and paper technology section. In this position he will be active in both the educational and research functions of the institute.

Before joining the institute staff, Dr. Glidden was assistant supervisor of pulp research for the Brown Company, Berlin, N. H. During the war years he was an instructor at the University of New Hampshire, where he taught the chemistry of pulp and paper.

Washington Talks It Over

The OPD Observer

The trend of Washington thinking on the administrative phases of the Marshall European relief program is tending more and more in the direction of establishing a special government agency or corporation to see that the materials scheduled for Europe are made available. Considerable reliance will be placed upon industry to join in the effort voluntarily, but where compulsion is necessary the government will have the authority to step in.

The limits to which the government will be permitted to go to force industry to meet export requirements, however, is the big question that remains to be decided. The Congressional leadership has given no indication of the stand that it will take on such a question, but it can be expected that members will favor only a minimum of controls. In fact it isn't too certain that the Marshall plan will be approved in its entirety, although it appears likely that most of it will be, if only on a piecemeal basis.

Extension of export controls are almost a certainty, together with authority to impose priority ratings on manufacturers to produce the goods needed for the export program. The question is whether authority also will be asked to go even further so as to provide for issuance of conservation orders, which would mean cutting off or sharply reducing supplies of materials that will be available to non-essential industry.

It is a foregone conclusion that control mechanism will be one of the most heatedly-debated phases of the whole program.

Insecticide-Fungicides Outlook

The Department of Agriculture has this to say about the outlook for insecticides and fungicides in 1948:—

It appears that 1948 nicotine compounds will continue in short supply and will not be adequate to meet all the needs for 1948. Other insecticides from plant sources, such as rotenone and pyrethrum, are expected to be available in sufficient quantities to meet the needs.

The supply of arsenicals, particularly lead arsenate and calcium arsenate, probably will be sufficient to meet the needs. The newer insecticides, such as DDT, chlordane, benzene hexachloride, chlorinated camphene, should be available in an amount fully adequate to meet estimated needs. Ample supplies of insecticides which contain fluorine, such as cryolite, sodium fluoride, sodium fluosilicate, will be available. By 1948, materials such as naphthalene, paradichlorobenzene, etc., should be reasonably in balance with needs. Sulphur, dust diluents, and oils used as insecticides or as carriers also should be available in adequate quantities. Newer soil fumigants and fungicides are expected to be generally available.

In general the insecticide and fungicide industry has the capacity and facilities for making and distributing most of the materials that may be required in 1948. Prices, however, may be up slightly from 1947.

Cottonroot Nematode Conquered

A striking feature of recent advances in agricultural science has been the discovery of a great variety of powerful substances to be used to do special jobs—rooting aids, enzymes, growth-promoting chemicals, weed and insect poisons, antibiotics, fumigants, and disinfectants. About the only common features of these discoveries is that most of them call for caution and exactness in application—and "a little goes a long way."

For example, cotton may be protected from the root-knot nematode, a destructive pest in many parts of the cotton belt, by fumigating with any one of several of the newer soil fumigants, such as D-D, Dowfume N, and Dowfume W. Tests by the Department of Agriculture this past Summer have shown that as little as 6.4 gallons to the acre of one of these chemicals holds the pest in check sufficiently to produce a full crop. Where the land is badly infested, such treatment promises to make the difference, other factors being equal, between a good crop and practically no crop at all.

There is good evidence now that a lot of damage to the cotton crop in the Southwest, and possibly elsewhere, is the result of nematode attack on the roots.

'Push Money' Case Watched

The cosmetic industry may be the most interested of the observers that will be following the course of the Federal Trade Commission's complaint against the Philco Radio Company. One of the big issues involved is the alleged use by Philco of "push money" to encourage the sales of its radios.

Use of "push money" in the cosmetic industry has long been one of its most widely engaged in practices. Not all of the companies use it, but many of them do even though they don't like the practice. Efforts

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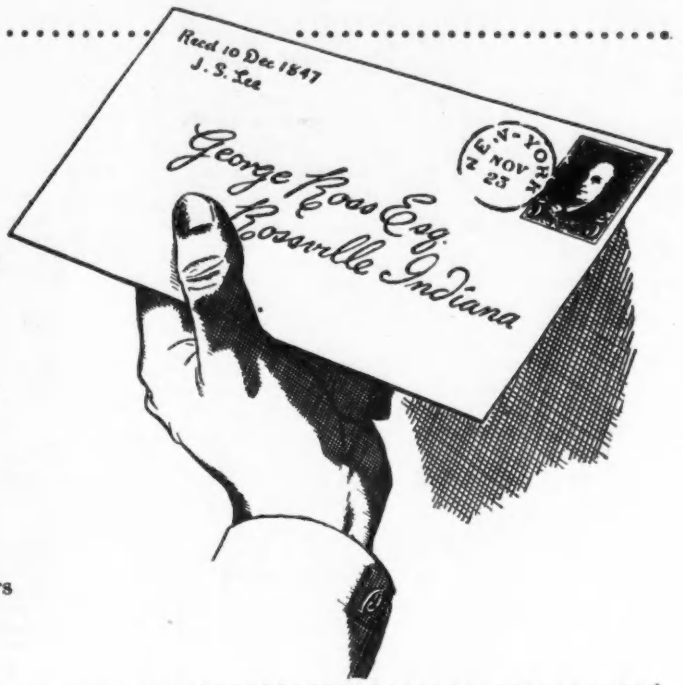
What big U. S. business started in 1847?



ONE HUNDRED YEARS AGO, the first issue of U. S. postage stamps marked the beginning of our modern postal system.

Starting in 1847 with 50 thousand dollars in stamps, the United States Post Office Department today handles billions of dollars in postage, money orders and postal savings every year.

What CSC activity dates back 100 years?

IN 1847, George Ross built a distillery on the banks of the Ohio River to ferment alcohol from the corn grown in rich, loamy Indiana soil.

From this small beginning grew CSC Rossville alcohols, which today do hundreds of jobs for industry, from protecting your car's radiator in winter to safeguarding the fragrance of the most delicate perfumes. Alcohol is one of more than two hundred CSC chemical products serving the doctor, the farmer, the manufacturer and the motorist.

CSC

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Industrial Application Of Chemicals

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Metanitrobenzoyl Chloride

Dye—Reactant in making dyes.

Pharmaceutical—Reported useful in making medicinals.

Photographic—Reagent in color photography.

Metaoxydimethylanilin Chloromethylate

Disinfectant—Starting point (U.S. 2256261) in making—germicides, effective against streptococcus, by reacting with diazotized 4-nitro-4'-aminodiphenylsulphone.

Methyl Benzoate

(Essence of Niobe, Niobe Oil)

Perfume—Ingredient of perfumes.

Rubber—Preservative for rubber.

Soap—Odorant in detergents, soaps, and other cleansing preparations.

Methyl Sulpho-N-dodecyloxy-ethylamide

Adhesives—Plasticizer (Brit. 520162) in adhesives compositions containing cellulose esters or ethers.

Ceramic—Plasticizer (Brit. 520162) in compositions, containing cellulose esters or ethers, used as coatings for protecting and decorating ceramic products.

Chemical—Solvent and plasticizer (Brit. 520162) for cellulose esters and ethers.

Cosmetic—Plasticizer (Brit. 520162) in nail enamels and lacquers containing cellulose esters or ethers as base material.

Electrical—Plasticizer (Brit. 520162) in insulating compositions, containing cellulose esters or ethers, used for covering wire and in making electrical machinery and equipment.

Glass—Plasticizer (Brit. 520162) in compositions, containing cellulose esters or ethers, used in the manufacture of nonscatterable glass and as coatings for decorating and protecting glassware.

Leather — Plasticizer (Brit. 520162) in compositions, containing cellulose esters or ethers, used in the manufacture of artificial leathers and as coatings for decorating and protecting leathers and leather goods.

Metal-Fabricating—Plasticizer (Brit. 520-162) in compositions, containing cellulose esters or ethers, used as coatings for protecting and decorating metallic articles.

Miscellaneous—Plasticizer (Brit. 520162) in coating compositions, containing cellulose esters or ethers, used for protecting and decorating articles of various sorts.

Paint, Varnish, and Lacquer—Plasticizer (Brit. 520162) in paints, varnishes, lacquers, enamels, and dopes containing cellulose esters or ethers.

Paper — Plasticizer (Brit. 520162) in compositions, containing cellulose esters or ethers, used in the manufacture of coated papers and as coatings for decorating and protecting articles made of paper or pulp.

Photographic—Plasticizer (Brit. 520162) in making films from cellulose esters or ethers.

Plastics—Plasticizer (Brit. 520162) in making laminated-fiber and molded products, and plastics from or containing cellulose esters or ethers.

Resins—Plasticizer (Brit. 520162) in making—artificial resins from or containing cellulose esters or ethers.

Rubber — Plasticizer (Brit. 520162) in compositions, containing cellulose esters or ethers, used as coatings for protecting and decorating rubber goods.

Stone—Plasticizer (Brit. 520162) in compositions, containing cellulose esters or ethers, used as coatings for decorating and protecting artificial and natural stone.

Textile — Plasticizer (Brit. 520162) in compositions, containing cellulose esters or ethers, used in the manufacture of coated fabrics.

Wood — Plasticizer (Brit. 520162) in compositions, containing cellulose esters or ethers, used as protective and decorative coatings on woodwork.

Phellandrene

(Additional uses, supplementary to those in the book, Uses and Applications of Chemicals and Related Materials.)

Mining—Blending agent in flotation oils based on eucalyptus oils and their constituents and fractions.

Miscellaneous—Solvent for various purposes.

Named Sales Manager

John L. Hammer, jr., associated with Smith, Kline & French Laboratories, pharmaceutical manufacturer, Philadelphia, since 1937, has been appointed sales manager for the firm.

Packaging Institute Annual Forum Program Announced

The Packaging Institute has announced the program for its ninth annual forum, to be held at the Commodore hotel, New York, on November 18-19. The program includes:

Tuesday, November 18

Opening of meeting by president Mason T. Rogers, manager of the packaging division, Dewey & Almy Chemical Company, and introduction of the new executive director, Dr. L. V. Burton. A general session will follow, presided over by W. O. Brewer, manager of pharmaceutical sales, Calco Chemical Division, American Cyanamid Company, and featuring a report on new developments in machinery and supplies by G. W. Reese, manager of the development division, American Can Company.

Reports of committees and election of directors will conclude the morning session and the afternoon meeting will be opened with a general session on packaging machinery, conducted by Carl E. Schaeffer, president of Stokes & Smith Company. Talks will be delivered by Francis Chilson, industrial and packaging consultant, and A. F. Stevenson, production manager, The Borden Company.

Following will be a talk on "Metal Closures" by L. L. Lauve, of Crown Cork & Seal Company; a discussion of "Glassine Papers" by Philip S. Barnhart, chief chemist, Westfield River Paper Company, and a paper entitled "Perspective on Packaging" by C. W. Browne, editor-in-chief, "Modern Packaging".

Wednesday, November 19

The morning session will be opened with a seminar on beverages, conducted by Dr. Ralph I. Claassen, general superintendent of Hiram Walker & Sons, Inc. Featured speakers and their subjects will be:—J. M. Wheaton, supervisor of technical division, packaging research, Owens-Illinois Glass Com-

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Sun Oil Names Linton Aid to Vice-President

Appointment of W. Henry Linton as assistant to Clarence H. Thayer, vice-president in charge of manufacturing, Sun Oil Company, Philadelphia, was announced today by Mr. Thayer. Mr. Linton, former manager of the refinery accounting department, will serve as an administrative assistant.

Chemical Engineers Investigate Modern Fischer-Tropsch Process

A major symposium on the Fischer-Tropsch process for making gasoline from natural gas or coal featured the fortieth annual meeting of the American Institute of Chemicals Engineers held last week in Detroit. Other sessions were given over to ion exchange, low temperature processes, chemicals from agricultural products, and materials of construction. More than 2,000 engineers were present.

Dr. Albert B. Newman, former dean of engineering at the College of the City of New York, was elected president for the year 1948. His election was announced by the council of the association and was based on a mail ballot of members. He had been associated with the Monsanto Chemical Company, St. Louis, and was head of the department of chemical engineering at Cooper Union before joining the C. C. N. Y. faculty.

F. J. Curtis, vice-president of Monsanto, was elected vice-president of the association, and Stephen L. Tyler and C. R. DeLong, consulting chemical engineers of New York City, were reelected executive secretary and treasurer, respectively.

The members, on the same ballot, elected the following directors: —M. C. Molstad, head of the department of chemical engineering, University of Pennsylvania, Philadelphia; John J. Healy, jr., Merrimac Division of Monsanto Chemical Company, Everett, Mass.; William T. Nichols, technical assistant to the executive vice-president, of Westvaco Chlorine Products Corp., New York; and William I. Burt, vice-president of B. F. Goodrich Chemical Company, Cleveland, Ohio.

Walker Award Winners

The New York Engineers won the William H. Walker Award for their work on distillation. The two men Dr. Manson Benedict and Prof. Louis C. Rubin published the results of their work in two articles in the 1945 publication of the chemical engineers, and the award was made for this work. Both Dr. Benedict and Prof. Rubin were employed at the time by the M. W. Kellogg Company, New York

Dr. Benedict is a graduate of Cornell University and Massachusetts Institute of Technology. He has been associated with the National Aniline & Chemical Company, the M. W. Kellogg Company, and then with the Kellex Corporation where he was in charge of process design of the gaseous diffusion plant to concentrate uranium 235. He was chairman of the War Department technical committee on control of atomic energy in 1946. He is now director of process development for Hydrocarbon Research, Inc.

Prof. Rubin was a graduate from the Colorado School of Mines, and Massachusetts Institute of Technology. He has been employed by the M. W. Kellogg Company, and is now manager of research for this company, a position he holds after being director of petroleum research from 1937 to 1946.

At the same time, it was announced that the Junior Award of the institute, which is given only to men under thirty-five years of age for contributions to chemical engineering, went to Dr. Harry G. Drickamer and Harry H. Hummel. Both men were chemical engineers on the staff of Pan American Refining Corporation at the time this paper was written. They collaborated on a study concerning purification of toluene, and the honor was given to them for the report they made in 1945 on, "Application of Experimental Vapor-Liquid Equilibria to an Analysis of the Operation of a Commercial Unit for the Purification of Toluene from Petroleum."

Dr. Drickamer studied at Vanderbilt, University of Indiana, and the University of Michigan, from which he received his

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Chemical Industry Medal Presented to G.W. Merck

George W. Merck, president of Merck & Co., Rahway, N. J., and former head of the U. S. Biological Warfare Committee, was awarded the 1947 Chemical Industry Medal of the American section of the Society of Chemical Industry, at a meeting held in New York, November 7. He was cited for "outstanding accomplishments in the field of pharmaceuticals, carried out under his

George W. Merck

leadership by Merck & Co., and for his wartime contributions to chemical industry."

Speakers were John P. Marquand, author, who discussed the personal life of the medalist, and Dr. A. N. Richards, vice-president in charge of medical affairs of the University of Pennsylvania, and wartime member of the Office of Scientific Research and Development, who recounted the "Accomplishments of George Merck." Cyril S. Kimball, of Foster D. Snell, Inc., New York, president of the American Section of SCI, presided. The medal for presented by S. D. Kirkpatrick, editor of "Chemical and Metallurgical Engineering," and past president of the society.

In his acceptance address, entitled "Scientists and Management in the Chemical Industry," Mr. Merck stressed the responsibility of management for the achievements of the research staff. "Management must prepare the soil in which research can flourish," he said. "Management must provide encour-

—*Continued on page 53*

Brooklyn Polytechnic Appoints Dr. R.S. Aries

Dr. Robert S. Aries has been appointed adjunct professor of chemical engineering by the Polytechnic Institute of Brooklyn, Brooklyn, N. Y. He was previously research associate of the institute and director of the Northeastern Wood Utilization Council, a position which he will continue to occupy. As a consulting chemical engineer, Dr. Aries has been employed by Socony-Vacuum Oil Company, Pennsylvania Salt Manufacturing Company, Publicker Industries, Inc., Sargent & Co., and the Dictaphone Corporation.

Association Meeting Dates

American Pharmaceutical Manufacturers Association, midyear meeting, Waldorf-Astoria hotel, New York, December 15-17.
Animal Health Institute, St. Paul, Minn., April 19-20.
Association of American Soap and Glycerine Producers, Waldorf-Astoria hotel, New York, January 28-29.
Chemical Industries Exposition, Grand Central Palace, New York, December 1-6.
Chemical Market Research Association, Biltmore hotel, New York, December 10.
Greater New York Safety Council, Pennsylvania hotel, New York, April 13-15.
National Association of Insecticide & Disinfectant Manufacturers, Lord Baltimore hotel, Baltimore, December 1-3.
National Association of Chain Drug Stores, Palm Beach Biltmore hotel, Palm Beach, Fla., January 11-14.
National Association of Corrosion Engineers, Jefferson hotel, St. Louis, Mo., April 5-8.
National Petroleum Association, Cleveland hotel, Cleveland, Ohio, April 21-23.
National Association of Purchasing Agents, Waldorf-Astoria hotel, New York, May 31-June 2.
National Confectioners Association, Waldorf-Astoria hotel, New York, June 20-25.
National Manufacturers of Soda Water Flavors, Atlantic City, N. J., November 18.
New York BIMS, annual dinner, January 22.
Packaging Institute, annual forum, Commodore hotel, New York, November 18-19.
Packaging Machinery Manufacturers Institute, New York, December 3.
Society of Cosmetic Chemists, Biltmore hotel, New York, December 3.
Southern Paint and Varnish Production Club advisory committee, Biltmore hotel, Atlanta, Ga., December 6.
Toilet Goods Association, scientific section, midyear meeting, Waldorf-Astoria hotel, New York, December 4.

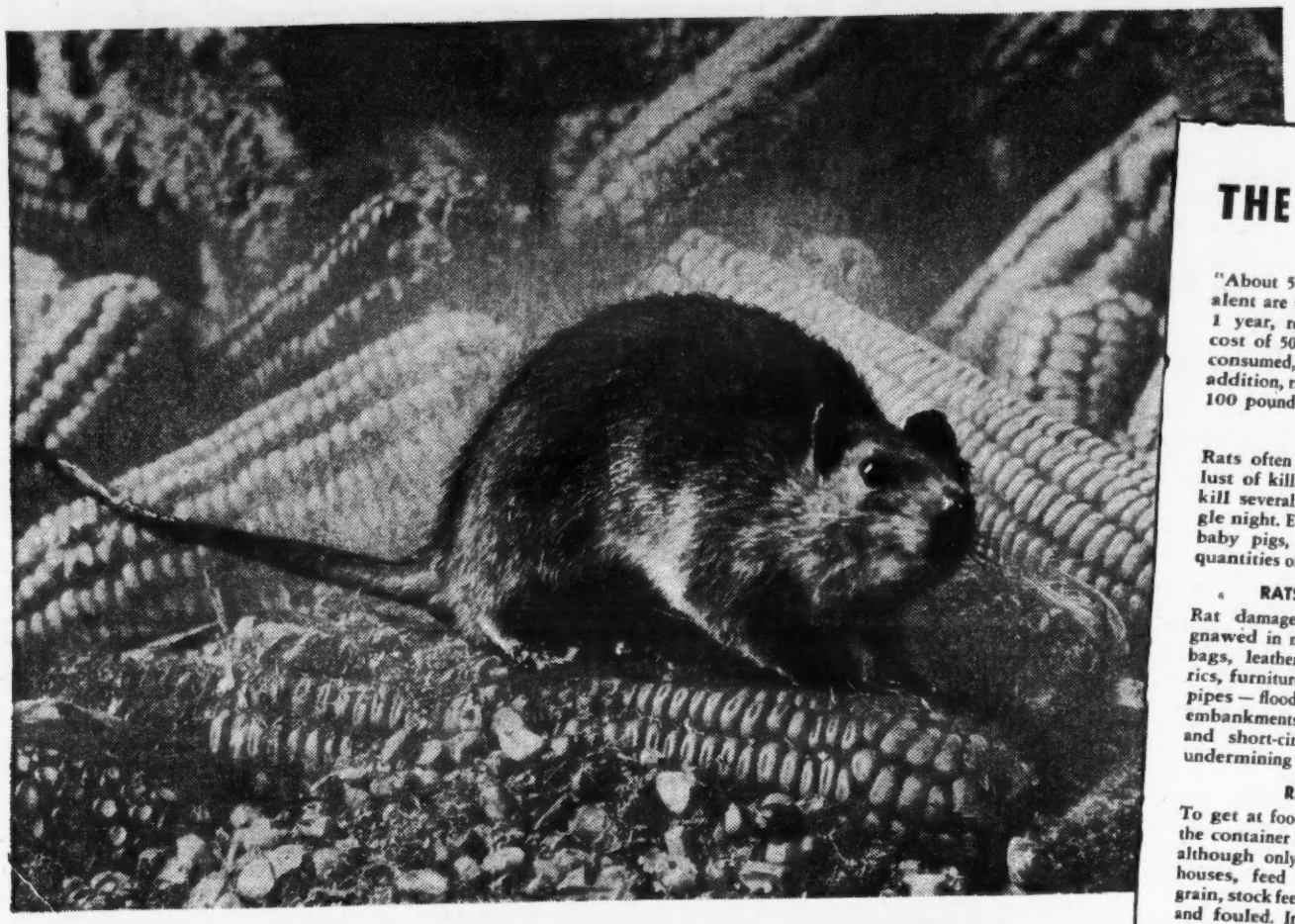
Chemical Salesmen's Ass'n Nominates 1948 Officers

J. Robert Fisher, of the Fisher Chemical Company, New York, has been nominated as 1948 president of the Salesmen's Association of the American Chemical Industry, it was announced today by Frank G. Fanning, of Frank G. Fanning Company, New York, chairman of the association's nominating committee.

Others named on the slate are vice-president, William C. Harmon, Jr., Calco Chemical Division of American Cyanamid Company, Bound Brook, N. J.; treasurer, John Seidler, Whittaker, Clark & Daniels, Inc., New York; and secretary, Paul W. Hiller, Innis, Speiden & Co., New York.

Gerald S. Furman, Merck & Co., Rahway, N. J., and Edward A. Bush, Bush Aromatics, Inc., New York, have been nominated as members of the board of directors for three-year terms, and Robert J. Milano, Millmaster Chemical Company, New York, has been selected for a one-year term.

Ballots will be sent to the members this week and the voting will be completed by December 15.



THE RAT MARKET ...and your sales opportunity with ANTU

There is one rat for nearly every man, woman and child in the United States—an estimated 137,000,000 rats.

Rats cost this country an appalling sum every year—about $400,000,000—as estimated by one Government Service.

They compete with man for food, carry diseases transmissible to him, destroy or undermine his buildings, cut his electrical insulation, damage his property.

Rats are the most harmful, the most destructive, the most menacing to human health, of all the animal pests.

Today with such an effective and efficient rat killer available as ANTU—a tremendous opportunity for sales is open to you.

THE CHEMICAL—ANTU (alpha-naphthyl-thiourea), discovered by government-sponsored research during the war, is a highly specific poison for the brown (Norway) rat—*the rat most commonly found in cities, towns, and on farms in the U. S.* It is relatively non-poisonous to other rodents and animals. So far as is known, it is non-toxic to man except in large amounts.

ITS PROPERTIES—ANTU is a finely granulated gray powder. It is insoluble in water but soluble in some organic solvents including ethyl alcohol, acetic acid, dioxan and pyridoxine. It is chemically stable, non-volatile, and non-irritating to the human skin.

EASE OF MIXING—ANTU mixes evenly with all kinds of food (or ground grain) and adheres well to dry or wet foods when dusted on them. It sticks to the feet and hair of rats when they run through it. It dusts well from insect dust sprayers and pump guns.

HOW IT WORKS—ANTU kills through the stomach, not through contact with the skin. Rats die when they eat it in their food or lick it off their feet and hair—usually within 10 to 24 hours.

ITS APPLICATION—ANTU is a single-shot poison. Its success depends on the rat's getting a fatal dose at the first meal, since they quickly develop a tolerance which lasts about 30 days and an aversion which may last longer.

The J. T. Baker Chemical Co. is now ready to supply you ANTU for manufacturing purposes. Write today for prices.

Our descriptive bulletin gives latest information and recommendations on ANTU—how to use it—precautions to take. Send for it! Address *Agricultural Chemical Division*, J. T. Baker Chemical Co., 66 South Main Street, Phillipsburg, N. J.

THE COSTLY RAT!

RATS WASTE FEED

"About 50 pounds of grain or its equivalent are required to maintain one rat for 1 year, representing a minimum annual cost of 50 cents per rat for food actually consumed," says a Government Service. In addition, rats waste and contaminate about 100 pounds for every 50 pounds they eat.

RATS KILL CHICKS

Rats often kill apparently purely for the lust of killing. They have been known to kill several hundred baby chicks in a single night. Even full-grown hens and ducks, baby pigs, and lambs are killed. Large quantities of eggs are commonly destroyed.

RATS DAMAGE PROPERTY

Rat damage to property includes holes gnawed in many articles, including grain bags, leather, expensive upholstery, fabrics, furniture, doors, books, and even lead pipes — flooding, caused by burrowing in embankments — fires, caused by gnawing and short-circuiting electric wires — and undermining foundations of buildings.

RATS RUIN FOOD

To get at food rats usually gnaw through the container and ruin the whole package, although only a little is eaten. In warehouses, feed stores and mills, sacks of grain, stock feeds and flour are often spilled and fouled. In wholesale and retail grocery stores they gnaw into breakfast foods, crackers, bread, candies and almost all food products in cardboard, paper or wooden cartons.

RATS SPREAD DISEASE

Rats not only carry bacteria and other parasites on their feet and bodies, they transmit diseases of their own to man and domestic animals. Also, they acquire a number of human and livestock diseases, contributing to their spread. Diseases spread by rats include bubonic plague, typhus fever, spirochetal jaundice, rat bite fever, food poisoning, tularemia, rabies, trichinosis.

HALF OF RATS ON FARMS

Government authorities estimate half of the rats in the United States are on farms . . . about 26 per cent are in non-farm country residences and in towns of less than ten thousand population . . . about 24 per cent are in cities of ten thousand or more. On the basis of observations by many people engaged in rat control, they roughly estimate there is one rat per person in the U. S. — about 137,000,000 rats.

LOSSES RUN INTO MILLIONS

A careful survey by one of the members of a Government Service last year resulted in the estimate of an annual loss of approximately $200,000,000 worth of cereals and cereal products as a result of foods eaten or damaged by rats. Total estimates of all damage range between $300,000,000 and $500,000,000 per year.

"If everyone understood the true status of the rat, how dangerous and how destructive a rodent it is, not a single rat would be allowed to exist in or near an abode or place of business."
—U. S. A. Wildlife Circular 6.

Baker's Chemicals

C. P. ANALYZED • FINE • INDUSTRIAL

Current Market Quotations

Chemicals and Related Materials

November 14, 1947

Unless otherwise indicated, listings are first-hand quotations on large lots, f.o.b. New York. Changes and trends are noted in the market reports, with other informative comment. The locations of these reports are given in the table of contents on page 4.

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A

Acacia (see Gum, arabic).
Acetaldehyde, 99%, dms., 55 gals., works..lb. .11½- .12
5 and 10 gals., works.....lb. .12 - .16
tanks, works .....lb. .09½- .10½
Acetaldol (see Aldol).
Acetamide, CP, fib. dms.....lb. .65 - .75
tech., fib. dms.....lb. .38 - .43
Acetanilide, tech., bbls., c.l.....lb. .19 - —
l.c.l. .....lb. .20 - .23
kgs. .....lb. .25 - —
USP, bbls., 2,000-lb. lots.....lb. .40 - .41
smaller lots .....lb. .41 - .42
Acetic anhydride, dms., c.l., frt. all. E. lb. .13½- —
l.c.l., frt. alld. E.....lb. .14½- —
tanks, frt. alld. E.....lb. .12 - —
Acetoacetanilide, bbls., dms.....lb. .57 - .60
Acetone, CP, dms., c.l., dlvd.....lb. .09 - —
l.c.l., dlvd. .....lb. .10 - —
tanks, dlvd. .....lb. .07½- —
Methyl (see M).
Acetonitrile, dms., c.l., works.....lb. .45 - —
l.c.l., works .....lb. .50 - —
smaller containers, works.....lb. .55 - .60
Acetophenetidin, USP, bbls., kgs., 1,000-lb. lots..lb. 1.00 - —
dms. .....lb. 1.05 - 1.10
Acetophenone, cns., dms.....lb. 1.50 - 1.85
Acetyl chloride, cbys., works.....lb. .60 - —
Acetyltributyl citrate, dms. .....lb. .43 - .51
smaller pkgs. .....lb. .54 - —
Acetyltriethyl citrate, dms.....lb. .36 - .44
smaller pkgs. .....lb. .47 - —
Acid, abietic, dms., c.l., works.....lb. .07½- —
Acetic, com'l or redist., 28%, bbls.,
100 lbs. 3.78 - 4.08
60%, bbls. .....100 lbs. 7.56 - 7.81
70%, bbls. .....100 lbs. 9.45 - 9.70
80%, bbls. .....100 lbs. 10.80 -11.05
glacial, synthetic, C.P., dms., works 100 lbs. 13.50 -14.00
tanks, works .....100 lbs. 7.62 - 8.62
tech., dms., c.l., works..100 lbs. 10.07 -11.00
USP, dms., works.....100 lbs. 11.50 -12.00

Acetic acid price ranges above are c.l. and l.c.l. quantities. Carboys and cases are 50c. per 100 lbs. higher.

Acetic anhydride (see Acetic anhydride above).
Acetylsalicylic, USP, special, bbls., makers, primary distrib., point of ship't, 100-lb. lots..lb. .50 - —
smaller lots.....lb. .51 - .64
standard, fine, cryst., gran. (30-40 mesh), powd. (80 mesh), bbls., same basis..lb. .46 - .59

Freight equalized, shipment identical quantity over standard routes, from N. Y., Phila., Midland, Mich., Chicago and St. Louis.

Aminoacetic, NF, bbls., frt. adjusted. lb. 1.50 - 1.75
Anthranilic, resub., bbls.....lb. 2.00 - 2.30
tech., bbls.....lb. 1.00 - 1.35
Arsenous, tech. (see Arsenic, white).
USP, powd., dms., kgs.....lb. .20 - .22
Ascorbic, USP, dms., 500-kilo lots .. kilo. 24.50 - —
25-50 kilo lots.....kilo. 25.00 - —
10-kilo lots.....kilo. 25.35 - —
5-kilo lots.....kilo. 25.70 - —
bots., kilo lots.....kilo. 26.41 - —
500 grams.....kilo. 27.47 - —
Battery, cbys., c.l., E. works. 100 lbs. 1.60 - 1.75
l.c.l., E. works.....100 lbs. 2.05 - 2.75
Benzoic, tech., bbls., 4,000 lbs. or more..lb. .43 - —
1,000 to 3,900 lbs.....lb. .44 - —
900 lbs. or less.....lb. .47 - —
USP, bbls., 4,000 lbs. up.....lb. .54 - —
1,000 to 3,900 lbs.....lb. .55 - —
900 lbs. or less.....lb. .58 - .59
dms., 4,000 lbs. up.....lb. .55 - .56
1,000 to 3,900 lbs.....lb. .56 - .57
900 lbs. or less.....lb. .58 - .59
Betanaphthol, bbls., works....lb. 1.05 - 1.22
Boric, tech., 99.5%, cryst., powd., paper bgs., c.l., frt. split..ton 104.00 - —
ton lots, ex whse, N. Y. or Chi..ton. 124.80 -125.00
less ton lots, same basis.ton. 129.70 -130.00
bbls., c.l., frt. split.....ton. 124.00 - —
ton lots, ex whse, N. Y. or Chi..ton. 144.70 -145.00
less car lots, same basis.ton. 149.70 -150.00
gran., bulk .....ton. 95.50 - —
paper bgs., c.l., frt. split..ton. 99.00 - —
ton lots, ex whse., N. Y. or Chi..ton. 119.70 -120.00
less ton lots, same basis.ton. 124.80 -125.00
bbls., c.l., frt. split.....ton. 119.00 - —
ton lots, ex whse., N. Y. or Chi..ton. 139.70 -140.00
less ton lots, same basis.ton. 144.70 -145.00

USP $25 per ton higher.

Broener's, bbls. .....lb. 1.22 - 1.34
Butyric, 99%, dms., c.l., works..lb. .32 - —
l.c.l., works.....lb. .33 - —
Caeodylic, bots.....lb. 12.00 -16.50
Camphoric, natural, dms.....lb. 8.00 - 8.50
synth., dms.....lb. 6.00 - 6.50
Capric, tech., frt. dms.....lb. .50 Nom.
Caprylic, 99%, dms.....lb. .50 Nom.
Castor oil, split, dms.....lb. .36¾- .37¼
Chlorosulphonic, dms., c.l., works.lb. .03 - —
l.c.l., works.....lb. .03½- .04½
tanks, works.....lb. .02½- —
Chromic, 99½%-99¾%, dms., c.l...lb. .21¾- —
l.c.l. .....lb. .22¼- .23¾
Cinnamic, refd., bots.....lb. 3.00 - 4.00
Citric, anhyd., gran., fine gran., bbls. lb. .25½- —
dms., c.l. .....lb. .24 - —
10,000 lbs., 1 ship't.....lb. .24½- —
kgs. .....lb. .25½- —

Anhydrous citric acid powder, ½c. per lb. higher.

USP, cryst., bbls., c.l.....lb. .25 - —
10,000 lbs., 1 ship't.....lb. .25½- —
smaller lots.....lb. .26 - —
kgs. .....lb. .26½- —
gran., fine gran., bbls., c.l.....lb. .22 - —
10,000 lbs., 1 ship't.....lb. .22½- —
smaller lots.....lb. .23 - —
kgs. .....lb. .23½- —

USP citric acid powder ½c. per lb. higher.

Cleve's, bbls., mixed.....lb. .61 - .65
Coconut oil, dist., dms.....lb. .31½- .32
Corn oil, s.d., dms.....lb. .23¾- .24¼
Cottonseed, dist., dms.....lb. .23¾- .24¼
Acid, cresylic, dom., coaltar, high-boil 50% (210°-215°), low boil 50% (204°-206°), and special blends, dms., c.l., works, frt. equald. gal. 1.26 - —
l.c.l., same basis.....gal. 1.29 - —
tanks, same basis.....gal. 1.20 - —
Petroleum, heavy grade, 220° to 240° C. dms., c.l., dlvd. E. Rockies..gal. .86 - —
l.c.l., same basis.....gal. 1.00 - —
tanks, same basis.....gal. .77½- —
Calif. ref'y.....gal. .62 - —
235°-290° C. dms., c.l., dlvd. E. Rockies..gal. .79 - —
l.c.l., same basis.....gal. 1.00 - —
tanks, same basis.....gal. .70½- —
Calif. ref'y.....gal. .57½- —
Crotonic, bbls., Canadian, works..lb. .50 - —
Dichlorophenoxyacetic, fib. dms., c.l., works..lb. .80 - —
l.c.l., works.....lb. .85 - .95
Diethylbarbituric (see Barbital)
F (see Acid, monosulphonic)
Formic, 85%, cbys., c.l., works....lb. .12 - —
l.c.l., works .....lb. .12½- .14¼
90%, cbys., c.l., works.....lb. .12½- —
l.c.l. works .....lb. .13 - .14½
Fumaric, tech., bbls., dms.....lb. .27 - .31
Gallic, NF V, bbls., 1,000-lb. lots..lb. 1.40 - —
smaller lots .....lb. 1.43 - 1.45
technical, bbls., 1,000-lb. lots....lb. 1.23 - —
smaller lots .....lb. 1.26 - 1.28
Gamma, bbls. .....lb. 1.03 - 1.07
Gluconic, tech., 50%, bots.....lb. .28 - .31
dms. .....lb. .14 - —
kgs. .....lb. .16 - —
Glycollic (see Acid, hydroxyacetic).
H, bbls., works.....lb. .50 - —
Hydriodic, 45-47%, cbys.....lb. 2.52 - 2.54
57%, cbys. .....lb. 2.85 - 2.85
Hydrobromic, medicinal, 48%, cbys., dlvd. E..lb. .48 - —
tech., 48%, cbys., dlvd. E.....lb. .45 - —
34%, cbys., dlvd. E.....lb. .35 - .37
Hydrochloric (see Acid, muriatic).
Hydrocyanic, cyls., works.....lb. .80 - 1.00
dilute, NF, 2%, 5-lb. bots.....lb. .30 - .40
Hydrofluoric, anhyd., cyls., works.lb. .19 - .19¼
tanks, works .....lb. .16 - —
30%, rubber dms., works.....lb. .08 - .09
48%, rubber dms., works.....lb. .12 - —
52%, rubber dms., works.....lb. .12½- —
60%, rubber dms., works.....lb. .13½- —
Hydrofluosilicic, 30-35%, bbls.....lb. .08 - .09
Hydroxyacetic, tech., 70%, bbls., non-return., Phila..lb. .08¼ - —
tanks, Belle, W. Va., 100% basis. lb. .08¾ - —
Hypophosphorous, USP, djns.....lb. .75 - .77
J, bbls., works, 20% basis.....lb. 2.42 - —
L, bbls., works.....lb. .73 - —
Lactic, edible, 50%, bbls., 10 or more. lb. .14½- —
smaller lots .....lb. .15 - —
80%, bbls., 5 or less.....lb. .24¼- .24¾
plastic grade, 50%, bbls., 20 or more. lb. .17¾- —
10 or less.....lb. .18½- —
80%, bbls., 5 or less.....lb. .31¾- .32½
tech., 22%, bbls., c.l., works. 100 lbs. 4.40 - —
l.c.l., works .....100 lbs. 4.80 - —
cbys., works .....100 lbs. 5.30 - —
44%, bbls., c.l., works.....100 lbs. 8.15 - —
l.c.l., bbls., works.....100 lbs. 8.55 - —
cbys., works .....100 lbs. 9.05 - —
USP XII, 85%, cbys.....lb. .54 - .57
USP VIII, 75%, cbys.....lb. .52 - .59
Laurent's, bbls. .....lb. .70 - —
Lauric, dist., 85-90%, dms.....lb. .36 - .38
60%, dms. .....lb. .30 Nom.
Linseed oil, light, dms.....lb. .39½- .40
Maleic, powd., dms.....lb. .26 - .30
Anhydride (see M).
Malic, powd., kgs.....lb. .47 - —
Mandelic, NF, dms., 1,000-lb. lots..lb. 2.35 - —
smaller lots .....lb. 2.40 - 2.60
Mixed, tanks, nitric unit.....lb. .05 - .06
sulphuric unit .....lb. .008½- .009
Molybdic, kgs., works.....lb. .95 - 1.10
Monochloroacetic, purified, flake, 99%, dms..lb. .21 - .22½
tech., flake, 96-97%, bbls.....lb. .17½- .19¼
Monosulphonic, bbls. .....lb. 1.50 - —
Muriatic, 18°, cbys., c.l., E. works. 100 lbs. 1.50 - 1.70
l.c.l., E. works.....100 lbs. 1.90 - 2.90
tanks, E. works.....ton. 18.00 -18.20
20°, cbys., c.l., E. works....100 lbs. 1.85 - 2.00
tanks, E. works.....ton. 20.00 -21.00
22°, cbys., c.l., E. works....100 lbs. 2.35 - 2.50
tanks, E. works.....ton. 22.00 -26.00
CP, USP, consumers, cbys., extra. lb. .08 - —
6-lb. bots., extra.....lb. .10 - —
dealers, cbys., extra.....lb. .06½- —
6-lb. bots., extra.....lb. .08½- —
Myristic, dist., dms.....lb. .45 Nom.
Naphthenic, 220-230 acidity, dms., extra, works..lb. .13 - —
tanks, works .....lb. .10 - —
230-240 acidity, dms., extra, works. lb. .20 - —
tanks, works .....lb. .17 - —
Naphthol(1)-4-sulphonic (see Acid, Neville and Winther's)
Naphthol(1)-5-sulphonic (see Acid L).
Naphthol(1)-5-sulphonic,8-amino (see Acid, S).
Naphthol(1)-3,6,-disulphonic,8-amino (see Acid, H).
Naphthol(2)-6,8-disulphonic (see Acid, Gamma).
Naphtholsulphonic, mixed (see Acid, Cleve's, mixed).
Naphthylamine(1)-5-sulphonic (see Acid, J).
(2)-6-sulphonic (see Acid, Broener's).
Neville and Winthers, dms.....lb. .73 - .76
Nicotinic, USP, dms., works....kilo. 6.00 - 6.30
Nicotinic amide (see Nicotinamide).
Nitric, 36°, cbys., c.l., E. works... 100 lbs. 5.00 - —
l.c.l., E. works.....100 lbs. 5.30 - 6.30
38°, cbys., c.l., E. works....100 lbs. 5.50 - —
l.c.l., E. works.....100 lbs. 6.00 - 6.25
40°, cbys., c.l., E. works....100 lbs. 6.00 - 6.50
l.c.l., E. works.....100 lbs. 6.50 - 7.10
42°, cbys., c.l., E. works....100 lbs. 6.50 - 7.00
l.c.l., E. works.....100 lbs. 7.00 - 7.25
CP, USP, consumers, cbys., extra. lb. .13 - —
7-lb. bots., cs., extra.....lb. .15 - —
dealers, cbys., extra.....lb. .11½- —
7-lb. bots., cs., extra.....lb. .13½- —
Oleic (see Oil, red).
Oleum (see Acid, sulphuric, fuming).
Acid, oxalic, bbls., c.l., works.....lb. .13 - —
10,000 lbs., works.....lb. .13¼- —
smaller lots, works.....lb. .14 - —
Palm oil, white, dist., dms.....lb. .21¼- .21¾
Para-aminobenzoic, purified, dms., works..lb. 4.00 - —
technical, bbls., works.....lb. 1.70 - —
Paramethylphenylcinchonic (see Neocinchophen).
Paranitrobenzoic, cns. .....lb. .80 - —
Paratoluidinmetasulphonic, bbls., wks. lb. .85 - —
Peanut oil, s.d., dms.....lb. .23¾- .24¼
Phenylacetic, bots.....lb. 1.51 - 1.75
Phenylglycollic (see Cinchophen).
Phenylglycollic (see Acid, mandelic).
Phosphoric, food grade, 50%, bbls., c.l., works, frt. equald..... 100 lbs. 4.50 - —
l.c.l., same basis.....100 lbs. 5.25 - 6.60
cbys., c.l., works, frt. equald.. 100 lbs. 5.00 - —
l.c.l., works, frt. alld.100 lbs. 6.00 - 7.50
75%, bbls., c.l., works, frt. equald..100 lbs. 5.75 - —
cbys., c.l., works, frt. equald. 100 lbs. 6.10 - —
l.c.l., works, frt. alld..... 100 lbs. 8.00 - 9.00
tanks, works, frt. equald.... 100 lbs. 4.00 - —
USP XII, 85%, 100-lb. cbys., c.l..lb. .10½- —
l.c.l. .....lb. .11½- .18
70-lb. cbys. .....lb. .10½- —
l.c.l. .....lb. .11½- .13
dilut., 10%, cbys., djns.....lb. .07 - .07½
Picramic, bgs.....lb. .65 - .70
Picric, bbls.....lb. .30 - .31
Propionic, nat., dms., works.....lb. .18 - —
tanks, works.....lb. .17 - —
synth., pure, dms., works.....lb. .22 - —
tanks, works.....lb. .21 - —
Pyrogallic, tech., bbls.....lb. No prices
N.F., cryst., dms.....lb. 2.80 - 3.05
resub., dms.....lb. 3.30 - 3.45
Pyroligneous, bbls., incl., l.c.l., ex whse..gal. .43 - —
Ricinoleate (see Acid, castor oil, sp'lt).
S, bbls., works.....lb. 2.54 - —
Salicylic, tech., bbls., c.l.....lb. .31 - —
smaller lots.....lb. .38 - —
USP, bbls., c.l.....lb. .40 - —
smaller lots.....lb. .47 - —
Sebacic, tech., dms., c.l., works...lb. No stocks
Soybean oil, s.d., c.l., works.....lb. .23¾- .24¼
Stearic, double pressed, bgs.....lb. .34 - .35
single pressed, bgs.....lb. .33½- .34½
triple pressed, bgs.....lb. .36¼- .37¼
Succinic, bbls.....lb. .87 - .90
Sulphanilic, CP, bots., works.....lb. 1.60 - 1.63
tech., dms., works.....lb. .17 - —
Sulphuric, 60°, cbys., c.l., E. works. 100 lbs. 1.35 - 1.40
l.c.l., E. works.....100 lbs. 1.70 - 2.00
tanks, E. works.....ton. 13.00 -13.50
66°, cbys., c.l., E. works....100 lbs. 1.55 - 1.70
l.c.l., E. works.....100 lbs. 2.05 - 2.75
tanks, E. works.....ton. 16.50 -17.50
98%, tanks, E. works.....ton. 17.50 -18.50
CP, N.F., consumers cbys., extra..lb. .08 - —
9-lb. bots., cs., extra.....lb. .10 - —
dealers, cbys., extra.....lb. .06½- —
9-lb. bots., cs., extra.....lb. .08½- —
fuming, 20%, tanks, E. works..ton. 19.50 -20.50
Tallow, dist., dms.....lb. .25¾- .26¼
Tannic, tech., 60-62%, dms.....lb. .68 - .69
70%, H.P., dms.....lb. .80 - .90
72-74%, dms.....lb. .80 - .90
USP, fluffy, bbls., 1,000-lb. lots..lb. 1.45 - —
smaller lots.....lb. 1.47 - 1.55
powder, bbls., 1,000-lb. lots....lb. 1.35 - —
smaller lots .....lb. 1.30 - 1.50
Tartaric, USP, bbls., 10,000 lbs., 1 ship't..lb. .49½- —
smaller lots.....lb. .50 - —
dms. .....lb. .52 - .53
kgs. .....lb. .50½- —
Thioglycolic, refined, bbls., cbys., basis 100%..lb. 1.95 - 2.00
tech., bbls., cbys., basis 100%..lb. 1.40 - —
Tobias, bbls.....lb. .60 - .62
Toluenesulphonic, dms., works....lb. .20 - —
Trichloroacetic, bots.....lb. 2.00 - 2.50
Tungstic, CP, 100-lb. pkgs.....lb. 3.30 - —
pure, 100-lb. kgs.....lb. 3.10 Nom.
Aconite leaves, bls. .....lb. .60 - .65
Root, bls. .....lb. 1.10 - 1.16
Aconitine, amorph., mild, bots.....oz. 32.50 - —
cryst., potent., bots.....oz. 85.00 - —
Acrylonitrile, dms., c.l., works....lb. .29½- —
l.c.l., works .....lb. .30½- .42½
tanks, works.....lb. .28½- —
Adeps lanae (see Lanolin).
Adonis vernalis herb, bls.....lb. .65 - .70
Agar .....lb. 3.85 Nom.
Agaric, white, bls. .....lb. 2.75 - 3.00
Agrimony herb, bls.....lb. .40 - .45
Albumen (egg), edible flake, bbls...lb. 2.80 - 3.00
powd., bbls .....lb. 2.85 - 3.05
tech., cryst., bbls.....lb. 1.25 - 1.45
Albumin, blood, dark (see Blood, dried, soluble).
light, dms., l.c.l.....lb. .70 - .75
Egg (see Albumen).
Alcohol, allyl, dms., c.l., dlvd.....lb. .26½- —
l.c.l., dlvd. .....lb. .27 - —
tanks, dlvd. .....lb. .25 - —
Amyl, ex pentane, dms., c.l., frt. alld. E. of Miss..lb. .18 - —
l.c.l., frt. alld. E. of Miss...lb. .19 - —
tanks, frt. alld. E. of Miss....lb. .17 - —
(see also Fusel oil, ref.).
Benzyl, cns.....lb. .72 - .80
dms. .....lb. .68 - —
Butyl, normal, ferment, Ill., Ind. prod., dms., c.l., frt. alld...lb. .30½- —
l.c.l., frt. alld. E.....lb. .31½- —
tanks, frt. alld E.....lb. .29 - —
tankwagon, frt. alld. E....lb. .29½- —
other production, dms., c.l., frt. alld E..lb. .30½- —
l.c.l., frt. alld. E.....lb. .31½- —
tanks, frt. alld. E.....lb. .29 - —
synthetic, dms., c.l., frt. alld. E..lb. .18½- —
l.c.l., frt. alld. E.....lb. .19 - —
tanks, frt. alld. E.....lb. .17 - —
Normal butyl alcohol prices in West, ½c. per lb. higher
secondary, dms., c.l., dlvd.....lb. .11 - —
l.c.l., dlvd. .....lb. .11¼- —
tanks, dlvd. .....lb. .09½- —
tertiary, dms., c.l.....lb. .12¼- —
l.c.l., dms. .....lb. .13 - —
tanks .....lb. .11 - —

Acacia—Aluminum Chloride Solution

Alcohol, capryl, dms., c.l., works....lb. .26 - —
l.c.l., works. .....lb. .27 - —
tanks, works .....lb. .24½- —
Cetyl, dom., CP., fiber ctns., 1,000 lbs..lb. 2.25 - —
smaller lots .....lb. 2.30 - 2.55
Cinnamic, bots. .....lb. 3.00 - —
Denatured, CD12, CD13, dms., c.l., E. works..gal. 1.03 - —
l.c.l., E. works.....gal. 1.07 - 1.12
tanks, dlvd. E.....gal. .96 - —

Tankcar sales require written authorization by Alcohol Tax Unit.

SD1, 190 pf., dms., c.l., E. works. gal. 1.03 - —
l.c.l., E. works.....gal. 1.07 - 1.12
tanks, E. works.....gal. .96 - —
SD2B, dms., c.l., E. works.....gal. 1.03 - —
l.c.l., E. works.....gal. 1.07½- 1.12½
tanks, E. works.....gal. .96½- —
SD23H, dms., c.l., E. works....gal. 1.01½- —
l.c.l., E. works.....gal. 1.05½- 1.10½
tanks, E. works.....gal. .94½- —
SD29, denatured with acetaldehyde, dms., c.l., E. works..gal. 1.04 - —
l.c.l., E. works.....gal. 1.08 - 1.13
tanks, E. works.....gal. .97 - —

When any of the several SD29 denaturants is supplied by the purchaser, the prices are the same as those of SD21 plus 1½c. per gal. denaturing charge.

Special solvent, dms., c.l., E. works. gal. 1.03½- —
l.c.l., E. works.....gal. 1.07½- 1.12
tanks, E. works.....gal. .96½- —

Tankcar sales require written authorization by Alcohol Tax Unit.

Diacetone, acetone free, dms., c.l., dlvd..lb. .13 - .13¼
l.c.l., dlvd. .....lb. .13½- .14
tanks, dlvd. .....lb. .11½- .12
tech., dms., c.l., dlvd.....lb. .13 - .14½
l.c.l., dlvd. .....lb. .14 - .15¼
tanks, dlvd. .....lb. .11½- .13
Ethyl, 190 pf., dms., c.l., E. works. gal. 18.13 - —
l.c.l., E. works.....gal. 18.17 -18.22
tanks, E. works.....gal. 18.06 - —
absolute, dms., c.l., E. works..gal. 19.10 - —
l.c.l., E. works.....gal. 19.14 -19.19
tanks, E. works.....gal. 19.03 - —
Ethylhexyl, dms., c.l., works.....lb. .29½- —
l.c.l., works .....lb. .30½- —
tanks, works .....lb. .28½- —
Furfuryl, tech., cns., works.....lb. .55 - —
dms., c.l., works.....lb. .22½- —
l.c.l., works.....lb. .25 - —
tanks, works.....lb. .19 - —
Isoamyl (see Carbinol, Isobutyl).
Isobutyl, refd., dms., works.....lb. .13 - —
tanks, works.....lb. .12 - —
Isopropyl, refd., 91%, dms., incl., c.l., dlvd..gal. .44 - .46¼
l.c.l., dlvd.....gal. .47 - .49¼
tanks, dlvd.....gal. .37 - —
99%, dms., incl., c.l., dlvd.....gal. .47½- .50
l.c.l., dlvd.....gal. .50½- .53
tanks, dlvd.....gal. .40½- —
Methyl (see Methanol).
Methylamyl (see Carbinol, methyl-isobutyl).
Octyl, perfumer's grade, bots....lb. 4.00 - 4.40
Phenylethyl, dms.....lb. 2.30 - 3.50
Polyvinyl, type A, fiber-pack, Niagara Falls..lb. .65 - .70
type B, fiber-pack, same basis..lb. .60 - .63
Propyl, normal, dms., c.l., works..lb. .11½- —
l.c.l., works.....lb. .12 - —
tanks, works.....lb. .10 - —
Salicyl (see Saligenin).
Tetrahydrofurfuryl, cns., Cedar Rapids, Ia..lb. .47 - —
dms., c.l., Waverly, N. Y.....lb. .40 - —
l.c.l., same basis.....lb. .44 - —
tanks, Niagara Falls, N. Y.....lb. .36 - —
Aldol, 95%, dms., works.....lb. .15 - .16
denaturing grade, dms.....gal. 1.33 - 1.48
Aletris root, bgs.....lb. 1.85 - 1.90
Algin, bbls., fib. dms.....lb. .76 - 1.00
Alizarin (see Red, alizarin).
Alkanet root, bgs.....lb. .75 - .80
Allspice, Jamaica (see Pimento).
Mexican, bgs.....lb. .14½- .15¼
Allyl bromide, cbys., 5,000 lbs., works. lb. .90 - —
smaller lots, works.....lb. 1.05 - 1.10
Chloride, dms., c.l., dlvd.....lb. .14 - —
l.c.l., dlvd.....lb. .14½- —
tanks, dlvd.....lb. .12½- —
Aloe, Cape, cs.....lb. .30 - .31
Curacao, kgs.....lb. .35 - .36
Socotrine, kgs.....lb. .35 - .36
Aloin, bbls., dms., kgs.....lb. 4.20 - 4.50
Alphacellulose, bgs., c.l., works....lb. .04 - .15
Alphanaphthol, bbls.....lb. .64 - —
Alphanaphthylamine, bbls.....lb. .35 - .35¼
Alphanaphthylthiourea, fib. dms., works, frt. alld..lb. 4.00 - 4.40
Alphanitronaphthalene, bbls.....lb. .31 - —
Alphapicoline, ret. dms., works, frt. equald..lb. .24 - .27¼
Alphapinene, tanks, S. works.....gal. .47 - —
Alphaterpineol, dms., l.c.l., dlvd. E..lb. .18 - —
Alphatocopherol, ampuls.....kilo. 750.00 - —
Althea root, NF, peeled, bls.....lb. .40 - .45
Alum, ammonia, burnt, USP, bbls., kgs. lb. .16 - .18
gran., bbls., works.....100 lbs. 4.00 - —
lump, bbls., works.....100 lbs. 4.25 - —
powd., bbls., works.....100 lbs. 4.40 - —
Potash, gran., bbls., works...100 lbs. 4.25 - —
lump, bbls., works.....100 lbs. 4.50 - —
powd., bbls., works.....100 lbs. 4.65 - —
Potash-chrome, bbls.....lb. .12½- .15
Soda, bbls., c.l., works.....100 lbs. 3.25 - —
l.c.l., dlvd., works.....100 lbs. 4.25 - 5.00
Alumina, classified grade, grd., kgs., works..lb. .35 - .37
top grade, grd., kgs., works.....lb. .60 - .67
unclassified, grd., kgs., works...lb. .10½- .40
Aluminum acetate, basic solution, 24%, bbls., l.c.l., works..lb. .11 - —
20%, bbls., l.c.l., works.....lb. .10 - —
Chloride, anhyd., com'l, dms., c.l., works..lb. .10 - .11
l.c.l., works.....lb. .10¼- —
cryst., com'l, dms., c.l., works..lb. .06 - —
l.c.l., works.....lb. .06½- .06¾
solution, 32°, cbys., c.l., works...lb. .02¾- —
l.c.l., works.....lb. .03¼- —

Aluminum Fluoride—Atropine Sulphate

Aluminum fluoride, tech., bbls....lb. .25 - —
Formate, solution, 19° Be., bbls., c.l., lb. .09½- —
l.c.l., works....lb. .10 - —
Hydrate, heavy, bgs., c.l., works.ton.56.00 - —
l.c.l., works....ton.76.00 - —
light, bgs., dlvd. ....lb. .17 - —
Hydroxide gel, tech., min. 15% Al (OH_3), dms., 10,000 lbs. or more, f.o.b. ship't point....lb. .03 - .03½
ton lots, same basis....lb. .03½- .05½
smaller lots, same basis....lb. .03¾- .04
14-15% Al_2O_3, fib. dms., works.lb. .20¾- —
contract, works....lb. .19¾- —
9-9½% Al_2O_3, fib. dms., works.lb. .17¾- —
contract, works....lb. .16¾- —
dried, USP XII, fib. dms., works. lb. .78 - —
contract, works....lb. .75 - —
powder, tech. (see Aluminum hydrate).
USP IX bbls., dms....lb. .15 - .17
Laurate, precip., bbls....lb. .42 - —
Linoleate, solid, bbls....lb. .51¼- —
Metal, 98-99%, ingots, 10,000 lbs..lb. .15 - —
pigs, 10,000 lbs....lb. .14 - —
Naphthenate, 1.7% Al, dms., wks.lb. .19 - —
Oleate, dms., contract....lb. .48½- —
Paste, lining, extra fine, dms....lb. .56 - .60
ink, dms. ....lb. .71 - —
standard, dms. ....lb. .38 - —
Powder, lining, extra fine, dms..lb. .93 - —
litho, dms....lb. .62 - .64
standard, dms. ....lb. .62 - —
rubber comp., dms....lb. .47 - —

Aluminum powder, unpolished, stand., dms..lb. .43 - .44
varnish, stand., dms....lb. .47 - —

Aluminum powder and paste prices are f.o.b. shipping point. Add 1c. per lb. for 100-lb. dm., 1½c. per lb. for 50-lb. dm., 3c. per lb. for 10-lb. can, and 5c. to 12c. per lb. for smaller containers. Deduct 1c. per lb. for single shipment of 400 to 1,499 lbs., 2c. for 1,500 to 4,999 lbs., 3c. for 5,000 to 29,999 lbs., and 4c. for 30,000 lbs. or more. Where destination is within the continental U. S., a deduction equivalent to the lowest available common carrier, transportation rate will be made from sellers' invoice on orders of 200 lbs. or over.

Resinate, precip., dms. ....lb. .20½- —
Stearate, dibasic, ctns., c.l....lb. .43 - —
l.c.l. ....lb. .44 - —
monobasic, ctns., c.l. ....lb. .43 - —
l.c.l. ....lb. .44 - —
tribasic, ctns., c.l. ....lb. .48 - —
less ton quantities....lb. .49 - 50
Sulphate, com'l, bgs., c.l., works, frt. equald..100 lbs. 1.15 - 1.30
l.c.l., same basis....100 lbs. 1.40 - 1.50
bbls., c.l., same basis....100 lbs. 1.55 - 1.60
l.c.l., same basis....100 lbs. 1.95 - 2.00
iron-free, bgs., c.l., works..100 lbs. 1.95 - 2.25
l.c.l., works....100 lbs 2.35 - 2.50
Trihydrate, heavy (see Aluminum hydrate).
Ambergris, gray, tins....oz. 8.50 -12.00
Aminoazotoluene, bbls. ....lb. .85 - —
Aminoethylpropanol, cns., dms., works. lb. .50 - 60
Aminoethylethanolamine, tanks, works. lb. .50 - —
Aminopyrine, bots., dms....lb. 4.50 - 4.75

Ammonia, anhydrous, fertilizer, tanks, works, frt. equald..ton.59.00 - —
pure, cyls., extra....lb. .16 - —
refrigeration, tanks, works....ton.61.50 - —
Aqua, dms., c.l., works....lb. .03 - .03¼
l.c.l., works....lb. .03¼- —
tanks, works (NH_3 content)....ton.65.00 - —
Ammoniac gum (see Gum, ammoniac).
Sal, gray, bbls., c.l., works..100 lbs. 7.00 - —
l.c.l., works....100 lbs. 7.40 - —
white, gran., bbls., c.l., works.. 100 lbs. 4.75 - —
l.c.l., works....100 lbs 5.00 - —
Ammonium acetate, purified, bbls..lb. .32 - —
reagent, bbls....lb. .34 - —
Benzoate, USP, dms., kgs., 4,000 lbs., frt. alld..lb. .43 - —
smaller lots, frt. alld....lb. .44 - .47
Biborate, bbls., c.l., works....ton.320.00 - —
ton lots, works....ton.338.50 - —
less ton lots, works....ton.343.50 - —
Bicarbonate, dms., works, c.l....lb. .064 - .0975
Bichromate, bbls., works....lb. .26 - .30
Bifluoride, bbls....lb. .15 - 15½
Bromide, gran., NF, bbls....lb .31 - —
dms. ....lb .32 - .35
powdered ammonia bromide 10c. per lb. higher.
Carbonate, USP, lump, dms....lb. .13½- .14
powdered, 1c. per lb. higher.
Chloride, tech. (see Ammoniac, sal). USP, bbls., dms., kgs....lb .13 - .15
Citrate, dibasic, bbls....lb. .75 - —
dms. ....lb. .80 - .85
Fluoride (see Bifluoride).
Hydroxide (see Ammonia aqua).
Hypophosphite, NF, dms....lb. 1.25 - 1.27
Iodide, NF, jars....lb. 3.90 - 3.96

Ammonium linoleate, plastic, 80%, dms., works..lb. .40½- —
kgs., works....lb. .42½- —
25%, dms., frt. alld. zone 1....lb. .21½- —
tech., bbls., works....lb. .37 - —
dms., works....lb. .39 - —
Molybdate, CP, cryst., kgs....lb. 1.26 - 1.30
fine cryst., bbls., kgs....lb. .84 - .87
purified, dms....lb. 1.10 - 1.12
Nitrate, fertilizer grade, Canadian, 33.5% N, bgs., c.l., shipping point..ton.75.00 - —
dom., bgs., western works....ton.48.50 - —
Nitrate-dolomite, 20.5% N, bgs., Hopewell, Va..ton.37.50 - —
Oleate, dms....lb. .14 - —
Oxalate, fine gran., bbls....lb. .23 - —
dms. ....lb. .25 - .29
Pentaborate, gran., bbls., c.l., works. ton.236.00 - —
ton lots, works....ton.248.50 - —
less ton lots, works....ton.253.50 - —
Ammonia pentaborate powder, $10 per ton higher.
Perchlorate, kgs....lb. .25 - —
Persulphate, kgs....lb. .25½- .28¼
Phosphate, dibasic, NF V, bbls., kgs. lb .37 - .39
tech., bgs., c.l., works....lb. .07 - —
l.c.l., works....lb. .07¾- —
Salicylate, NF, dms., kgs....lb. 1.25 - —
Silicofluoride, bbls., works....lb. .12½- —
Stearate, anhydrous, dms....lb. .34 - —
paste, dms....lb. .06½- —
Sulphamate, bbls., dms., works....lb. .18 - .20
Sulphate, bulk, producing ovens..ton.35.00 -38.00
Sulphide, liquid, 40-45% basis, 100% dms., c.l., works..lb. .10 - —
l.c.l., works....lb. .10½- —
tanks, dlvd. or frt. alld....lb. .08½- —
Sulphocyanide, pure, bbls....lb. .60 - .68
tech., bbls....lb. .17 - .19
Thiocyanate (see Ammonia sulphocyanide).
Thioglycolate, highly purified, 100% basis, bbls..lb. 7.10 - 8.25

Amyl acetate, ex fusel oil, tech., dms., c.l., dlvd..lb. .28½- —
l.c.l., dlvd. ....lb. .29½- —
tanks, dlvd. ....lb. .27 - —
ex pentane, dms., c.l., frt. alld. E. of Miss. R..lb. .22 - —
l.c.l., same basis....lb. .23 - —
tanks, same basis....lb. .21 - —
Alcohol (see Alcohol, amyl).
Butyrate, dms....lb. .90 - 1.00
Chloride, mixed, tech., dms., c.l., works..lb. .07 - —
l.c.l., works....lb. .08 - —
tanks, works....lb. .06 - —
Ether (see Ether, amyl).
Nitrite, USP, bots....lb. 1.75 - 1.83
Mercaptan, dms., works....lb. 1.10 - —
Salicylate, ens....lb. .77 - .87
Stearate, dms., works....lb. .42 - .45½
Anethol, com'l, dms., works....lb. .50 - —
NF, dms....lb. .60 - 1.40
Angelica root, dom. (atropurpurea), bls..lb. 1.10 - 1.15
imported, bls....lb. 1.70 - 1.90
Angostura bark, bls....lb. .55 - .60
Anilin oil, dms., c.l., works, frt. alld..lb. .14 - —
l.c.l., works, frt. alld....lb. .15 - —
tanks, works, frt. alld....lb. .13 - —
Salt, dms., works....lb. .22 - .24
Anise, Argentine, bgs....lb. .29 - .30
Chinese Star ....lb. .15 - .15½
Cyprus, bgs. ....lb. .26 - .26½
Mexican, bgs....lb. .26 - .26½
Syrian, bgs....lb. .26 Nom.
Anisic aldehyde, bots., ens....lb. 2.53 - 3.35
dms. ....lb. 2.42 - 2.75
Annatto paste, bxs....lb. .34 - .37
Seed, bgs....lb. .19 - .20
Anthracene, 80-85%, bbls., works....lb. .60 - .80
90%, bbls., works....lb. .81 - 1.00
Anthraquinone, 99.5%, bbls....lb. .70 - —
Antimony butter (see Antimony chloride).
Chloride, solut., cbys....lb. .17 - —
Metal, bulk, c.l., mines....lb. .33 - .33½
Needle, cs....lb. No stocks
Oxide, ceramic grade, bgs., c.l., dlvd..lb. .26 - .27½
l.c.l., dlvd. ....lb. .28 - .28½
paint grade, bgs., c.l., works....lb. .27½- .31
l.c.l., works....lb. .28¼- .32¾
Salt, 65%, bgs., c.l., dlvd. E. of Miss. lb. No stocks
Sulphide, 65-70%, bbls., c.l., works.lb. .22 - —
l.c.l., works....lb. .24 - —
Antipyrine, bbls....lb. 2.15 - 2.25
Apomorphine, bots. ....oz. 23.20 -25.70
Archil extract, bbls....lb. No stocks
Areca nuts, powd., bbls....lb. .22 - .23
Arecoline hydrobromide, bots....oz. 6.10 - 7.10
Antimony-potassium tartrate (see Tartar emetic)
Argols, min. 70%, bgs., shipment ports, 100 kilos (100% purity)..28.50 - —
Arnica flowers, bls....lb. 1.15 - 1.25
Arrowroot, powd., bgs., bbls....lb. .16 - .17
Arsenic, metal, lump, bbls., c.l....lb. No stocks
Metal, lump, bbls., c.l....lb. No stocks
Sulphide, yellow, bbls....lb. No stocks
Trioxide (see Acid, arsenous)
White, powd., bbls., c.l....lb. .06 - —
l.c.l. ....lb. .07 - .08
Asafetida, cs....lb. .55 - .60
powd., bbls., dms....lb. .72 - .77
Asbestine (see Talc, N. Y., fibrous).
Asbestos fiber, 5D and 5K, bgs., c.l. (20 tons), Can. mines..ton.73.00 - —
5K, bgs., c.l. (20 tons), same basis. ton.65.00 - —
6D, bgs., c.l. (30 tons), same basis. ton.18.50 - —
7D, bgs., c.l. (30 tons), same basis. ton.44.50 - —
7F, bgs., c.l. (30 tons), same basis. ton.42.00 - —
7K, bgs., c.l. (30 tons), same basis. ton.31.00 - —
7M, bgs., c.l. (30 tons), same basis. ton.27.50 - —
7R, bgs., c.l. (30 tons), same basis. ton.26.50 - —
7RF, bgs., c.l., same basis....ton.27.00 - —
7T, bgs., c.l., same basis....ton.25.50 - —
7TF, bgs., c.l., same basis....ton.27.00 - —
Asphaltum, California, dms., c.l..ton.36.00 - —
l.c.l. ....ton.41.00 - —
Cuban, A, bulk, c.l....ton.60.00 - —
l.c.l. ....ton.80.00 - —
B, bulk, c.l....ton.38.50 - —
l.c.l. ....ton.55.00 - —
Gilsonite, brilliant black, selects 270°-295° F fus. pt., bgs., f.o.b. Colo. mines..ton.36.50 - —
Seconds, 300°-390° F fusing point, not uniform, bgs., mines..ton.29.00 - —
Jet, bgs., ton lots, gross weight, Colo. mines..ton.29.00 - —
Manjak, No. 10, crude, dms., works. lb. .06½- —
process form, bgs., works....lb. .05¾- .12
Mexican, refd., dms., f.o.b. Tampico, metric ton.27.50 - —
South American, refd., dms., c.l., N. J. refy..ton.22.00 -23.00
l.c.l., same basis....ton.24.00 -25.00
tanks, same basis....ton.15.00 - —
Atropine, bots....oz.10.80 -12.00
Sulphate, bots....oz. 8.90 - 9.80

Secondary Aromatic Amines

Good-rite CHEMICALS

Phenyl B-Naphthylamine

p-Hydroxy Diphenylamine

p-Isopropoxy Diphenylamine

Mixed Mono and Diheptyl Diphenylamines

These amines are suggested for use as stabilizers, antioxidants, polymerization inhibitors, and for organic synthesis. It is believed that they will find wide usage in the following industries: Dyes, explosives, plastics, petroleum, photographic, drug, medicinal, and soap.

Other organic Chemicals

Di-secondary Aromatic Amines

Diphenyl p-Phenylenediamine

Di B-Naphthyl p-Phenylenediamine

Ethers of Hydroquinone

Monobenzyl Ether of Hydroquinone

Dibenzyl Ether of Hydroquinone

Miscellaneous

Di-Isopropyl Dixanthogen

Trimethyl Dihydro Quinoline Polymer

Mixed Ethyl and Dimethyl Mercaptothiazoles

Mixed Aliphatic Thiazyl Disulfides

N-Nitroso Diphenylamine

All materials listed here are available in commercial quantities. Prices and technical information are available on request. Please write Dept. CH-5, B. F. Goodrich Chemical Company, Rose Building, Cleveland 15, Ohio.

B. F. Goodrich Chemical Company A DIVISION OF THE B. F. GOODRICH COMPANY

GEON polyvinyl materials • HYCAR American rubber • KRISTON thermosetting resins • GOOD-RITE chemicals

Wanted

ETHYLENE GLYCOL
MONOETHANOLAMINE
PHTHALIC ANHYDRIDE
PROPYLENE GLYCOL
TITANIUM DIOXIDE

For Sale

CALCIUM GLUCONATE USP
DICALCIUM PHOSPHATE
ETHYL ACETATE 95-98%
FORMIC ACID 85-90%
NAPHTHALENE
NICKEL FORMATE
SODIUM SULPHIDE, Flake
TETRACHLORETHANE
TRIPHENYL PHOSPHATE
UREA 46%N; 132°C m.p.

WILLIAM D. NEUBERG CO., INC.

Chemicals

GRAYBAR BUILDING • 420 LEXINGTON AVE. • NEW YORK 17, N. Y.
TELEPHONE LEXINGTON 2-3324
CABLE—"WILNEUBERG"

Balm of Gilead Buds—Borax, Technical, Fine Granular

B

Balm of Gilead buds, bgs. lb. 2.25 - 2.50
Barbasco root (see Cube root).
Barberry root bark, bgs. lb. .78 - .80
Barbital, dms. lb. 4.50 - —
Sodium, dms. lb. 4.75 - —
Barium carbonate, precip., bgs., 10 tons and up, works. ton. 67.50 -75.00
small lots, works. ton. 74.80 -82.00
Chlorate, kgs., works. lb. .25½- .31
Chloride, CP, cryst., bbls. lb. .25 - .27
pure, bbls., kgs. lb. .10 - .13
tech., bgs., c.l., works. ton. 85.00 - —
l.c.l., works ton. 95.00 - —
Dioxide, dms., c.l., works. lb. 11½- —
l.c.l., works lb. .13 - —
Fluoride, bbls. lb. .14 - —
Hydrate, crystals, bgs. lb. .09 - .09¼
Hydroxide, bbls., works. lb. .19 - —
Iodide, bots. lb. 5.12 - —
Monoxide (see Oxide).
Nitrate, bbls., c.l., works. lb. .11½- —
l.c.l., works lb. .13 - —
Oxide, grd., dms., works. lb. .11 - .11½
l.c.l., works lb. .12½- .13½
Peroxide (see Dioxide).
Silicofluoride, bbls. lb. .17 - .19
Stearate, ctns., 1 ton up. lb. .47 - .48
smaller lots lb. .48 - .49
Sulphate, tech. (see Barytes and Blanc fixe).
X-ray, bbls. lb. .10 - 10½
kgs. lb. .12½- —
Sulphide, dms., works. ton. 55.00 -70.00
Baryte ore, approx. 94% $BaSO_4$, bulk, mines. ton. 8.50 -12.50
Barytes, water-grd., paper bgs., c.l., St. Louis. ton. 30.30 - —
l.c.l., same basis ton. 32.10 - —
ex whse., N. Y. ton. 45.00 - —
Southern off-color, bgs., mines. ton. 19.00 - —
95.75%, bgs., mines. ton. 20.00 - —
Bay leaves (see Laurel leaves).
Barberry bark, bgs. lb. .12 - .18
Belladonna leaf, bls. lb. 1.40 - 1.50
Root, bls. lb. 1.25 Nom.
Bauxite, bulk, mines. ton. 8.50 -10.00
Bentonite, 200 mesh, bgs., works. ton. 11.00 - —
Benzaldehyde, NF, dms. lb. .68 - .90
tech., cbys., dms lb. .45 - .85
Benzene (see Benzol).
Hexachloride, tech., 11% gamma bgs., dms., c.l., works. lb. .35½- .42½
l.c.l., works lb. .379 - .474
dust, dry, 50%, dealers, dms., c.l., works. lb. .33 - —
l.c.l., works. lb. .34 - .36
wet, 50%, dealers, dms., c.l., works. lb. .34 - —
l.c.l., works lb. .35 - .36
Benzidin base, bbls. lb. .77 - —
Benzocaine, cns. lb. 3.50 - 3.85
Benzol (benzene), pure, nitration and 90%, dms. ret., works. gal. .24 - .26
tanks, E. of Omaha, frt. alld. up to 2c. gal. .19 - .21
W. Coast, Minnequa, Colo., same basis. gal. .19 - —
Benzophenone, dms. lb. 1.15 - 1.60
Benzoyl chloride, cbys. lb. .30 - .36
Peroxide, pure, fib. ctns., works. lb. .90 - 1.05
Benzyl acetate, f.f.c., dms. lb. .80 - 1.00
dms. lb. .60 - .70
Alcohol (see Alcohol, benzyl).
Benzoate, f.f.c., cns., dms. lb. 1.00 - 1.40
Chloride, refined, cbys. lb. .92 - —
tech., cbys., works, frt. equald. lb. .20½- —
Cinnamate, cns. lb. 3.85 - 4.00
Formate, cns. lb. 1.95 - 2.50
Propionate, bots. lb. 1.85 - 2.30
Salicylate, bots. lb. 1.80 - 2.25
Benzylidinacetone, bots. lb. 1.85 - 2.70
Benzylisoeugenol, bots. lb. 9.00 - —
Berberine bisulphate, cns. lb. No stocks
Hydrochloride, bots. lb. No stocks
Sulphate, cns. lb. No stocks
Berberis root, bls. lb. .80 - .85
Betagammapicolin, dms., c.l., works. lb. .14½- —
l.c.l., works lb. .25 - —
Betanaphthol, resublimed, dms., works. lb. .72 - .75
tech., bbls., c.l., works. lb. .26 - .26
l.c.l., works lb. .26 - .29
Benzoate, fib. dms., works. lb. 1.75 - —
Salicylate, dms. lb. 5.00 - —
Betanaphthylamine, tech., bbls., works. lb. .62 - —
Betapicolin, 90%, ret. dms., c.l., works. lb. 1.60 - —
l.c.l., works lb. 1.85 - —
95%, dms., works. lb. 2.05 - —
98-99%, dms., works. lb. 2.20 - —
Bith root, bls. lb. .55 - .60
Bismuth chloride, jars. lb. 4.80 - —
Citrate, USP VIII, jars. lb. 3.12 - —
Hydroxide, dms. lb. 4.00 - —
Metal, bxs., ton lots. lb. 2.00 - —
Nitrate, cryst., cns. lb. 1.60 - —
Oxychloride, cns., dms. lb. 3.80 - —
Oxide, anhydrous, dms. lb. 4.20 - —
Subcarbonate, USP, dms. lb. 2.60 - 2.65
Subgallate, NF, fib. dms. lb. 2.45 - 2.48
Subiodide, fib. dms. lb. 4.18 - —
Subnitrate, USP, dms. lb. 2.15 - 2.18
Subsalicylate, USP, dms. lb. 2.65 - —
Sulphocarbolate, fib. dms. lb. 4.05 - —
Bismuth-ammonium citrate, USP, powd., dms. lb. 3.70 - —
Black, acetylene, bgs., c.l., works. lb. .12½- —
cs., l.c.l., ship. pt. lb. .16 - .18
Bone, bgs., bbls., c.l., frt. alld. dest. lb. .13 - .93
Carbon, channel, beads, bulk, c.l., works. lb. .06 - —
bgs., c.l., works. lb. .063- —
l.c.l., works. lb. .07 - —
dlvd. or whse. lb. .1025- —
uncompressed, regular, bgs., c.l., works. lb. .075 - —
bgs., ctns., l.c.l., dlvd. or whse lb. .11½- —
furnace, HMF, bgs., c.l., works. lb. .05 - —
ctns., l.c.l., whse. lb. .09 - —
SRF, bgs., c.l., works. lb. .035 - —
ctns., l.c.l., whse. lb. .075 - —
Charcoal (see C).
Graphite (see G).
Iron oxide, synthetic, bgs., c.l., works. lb. .06¾- —
l.c.l., works. lb. .10 - —
Lamp, bgs., c.l., works. lb. .07 - .30
Mineral, bgs., l.c.l. ton. 56.00 -81.00
Black ash (see Barium sulphide).
Black dyes (see Dyes).
Black haw root bark, bls. lb. .75 - .76
Tree bark, bls. lb. .35 - .48
Black Indian hemp root, bls. lb. .55 - .60
Blanc fixe, dry, by-product, bgs., c.l., works. ton. 72.50 - —
l.c.l., works ton. 80.00 - —
direct process, bgs., c.l., works. ton. 85.00 - —
l.c.l., works ton. 90.00 - —
N. Y. whse. ton. 108.00 -120.00
bbls., c.l., works. ton. 90.00 - —
l.c.l., works ton. 95.00 - —
N. Y. whse. ton. 113.00 - —
pulp, 60-65%, bbls., c.l., works. ton. 55.00 - —
l.c.l., same basis. ton. 60.00 - —
Bleaching powder, dms., c.l., works. 100 lbs. 3.75 - —
l.c.l., works 100 lbs. 4.25 - —
bbls., c.l., works. 100 lbs. 3.50 - —
l.c.l., works. 100 lbs. 4.00 - —
Blood, dried, 16-16½% ammo., bgs. unit-ton. 10.00 - —
high-grade, unground, 16-17% ammon., bulk, Chicago. unit-ton. 9.75 - —
soluble, bgs., l.c.l. lb. .17 - .25
Bloodroot, bls. lb. .75 - .80
Blue, alkali, dry, bbls., dlvd. N. of Tenn. and N. C., E. of Miss. River, including St. Paul, Minneapolis, Davenport, Rock Island, St. Louis. lb. 1.90 - —
Toner, bbls., litho flushed, same basis. lb. 1.10 - —
Celestial, bbls., same basis. lb. .15 - .16
Chinese, bbls., same basis. lb. .42 - —
Cobalt, genuine, bbls., same basis. lb. 4.90 - —
imitation (see Blue, ultramarine).
Copper-phthalocyanin, full strength, bbls., same basis. lb. 3.75 - 3.85
80%, bbls., same basis. lb. 3.00 - 3.40
Iron (see Blue, Chinese, Milori, Potash Prussian, and Soda).
Methyl violet toner, bbls., same basis. lb. 4.20 - —
Milori, bbls., same basis. lb. .42 - —
Peacock, fugitive, 100% color strength, same basis. lb. .60 - .70
Permanent toner, green shade, molybdic, bbls., same basis. lb. 3.75 - —
Tungstic lb. 4.00 - —
Potash, CP, bbls., same basis. lb. .48 - —
Prussian bbls., same basis. lb. .42 - —
soluble, bbls., same basis. lb. .42 - —
Soda, CP, bronze, bbls., same basis. lb. .80 - —
Ultramarine, cobalt type, dry or pulp, bbls., same basis. lb. .14 - .18
jobbing type, dry, bbls., same basis. lb. .11 - .14
regular types, dry or pulp, bbls., same basis. lb. .10 - .18
Victoria, toner, molybdic, bbls. lb. 3.75 - —
Tungstic, bbls. lb. 3.75 - —
Ink toner, bbls., same basis. lb. 2.05 - 2.75
Violet toner, molybdic, bbls., same basis. lb. 1.24 - —
Tungstic, kgs., same basis. lb. 2.00 - 2.70

Blue dry colors, dlvd. prices ½c. higher Ala., Fla., Ga., La. (Shreveport, 1½c.., Miss., N. C., S. C., Tenn., Tex. (El Paso, 2c.), Cedar Rapids, Des Moines, Kansas City, Lincoln, Omaha, St. Joseph, 1.6c. higher, Pac. Coast, Denver, Pueblo, Salt Lake City, Wichita, frt. equalized with Chicago.

Blue dyes are listed under Dyes.
Bluefing, root, bls. lb. No stocks
Bluestone (see Copper sulphate).
Blue vitriol (see Copper sulphate).
Boldo leaves, bls. lb. .11 - .12
Bone, raw, bulk, Chicago. ton. 75.00 - —
junk, bulk, same basis. ton. 50.00 -52.00
Meal, raw, 4½% ammon., 50% phos., bgs., E. works. ton. 65.00 - —
Chicago, works. ton. 60.00 - —
steamed, feeding grade, 1% ammon., 60% phos., bgs., E. works. ton. 65.00 - —
Chicago, works ton. 65.00 - —
fertilizer grade, 3% ammon., 50% phos., bgs., E. works. ton. 60.00 - —
Chicago, works ton. 60.00 - —
Phosphate, defluorinated (see D), precipitated (see Calcium Phosphate tribasic precip).
Boneset leaves, bls. lb. .17 - .18
Borage flowers, bls. lb. .55 - .56
Borax, tech., 99½%, cryst., paper bgs., c.l., works, frt. split. ton. 74.10 - 76.00
ton lots, ex whse., N. Y. or Chi. ton. 94.20 -94.50
less ton lots, same basis. ton. 96.20 -96.50
bbls., c.l., works, frt. split. ton. 94.50 - —
ton lots, ex whse., N. Y. or Chi. ton. 114.20 -114.50
less ton lots, same basis. ton. 119.20 -119.50
fine gran., bulk, works. ton. 44.50 -47.50
paper bgs., c.l., works, frt. split. ton. 48.50 - —
ton lots, ex whse., N. Y. or Chi. ton. 68.20 -68.50
less ton lots, same basis. ton. 73.20 -73.50
bbls., c.l., works, frt. split. ton. 68.50 - —
ton lots, ex whse., N. Y. or Chi. ton. 88.20 -88.50
less ton lots, same basis. ton. 92.20 -92.50

it takes balance

Whether it's peas on a knife . . . or the emulsifier you choose for your needs . . . it takes balance!

Your emulsifier must be scientifically balanced to do precisely what you require. This is the basis upon which The Emulsol Corporation built its research in developing such outstanding products as:

- Emcol MS: High monoester glyceryl monostearate —non self-emulsifying—edible.
- Emcol RH: Self-emulsifying glyceryl monostearate —edible. Designed for Emulsifying, Plasticizing, Texturizing, Freshening, Bodying, Stabilizing.

And most keenly balanced of all . . . The Emulsol Corporation's recognized "know-how" technical services. Send us your problem on your letterhead and, at no obligation, we will give you the most effective answer.

THE EMULSOL CORPORATION

59 East Madison Street Chicago 3, Illinois

Borax, tech., 99½%, powdered, paper bgs., c.l., works, frt. split..ton.83.50 - —
ton lots, ex whse., N. Y. or Chi..ton.73.20 -73.50
less ton lots, same basis..ton.78.20 -78.50
bbls., c.l., works, frt. split..ton.73.50 - —
ton lots, ex whse., N. Y. or Chi..ton.93.20 -93.50
less ton lots, same basis..ton.98.20 -98.50
Borax packed in kgs. is $40 per ton higher than borax packed in paper bags. USP, $15 per ton higher.
Bordeaux mixture, bgs., c.l., whse., works, frt. alld..lb. .15 - .21
l.c.l., same basis.....lb. .16 - .23
Bornyl thiocyanoacetate (see Isobornyl thiocyanoacetate).
Brazilwood extract (see Hypernic).
Brimstone (see Sulphur).
Bromine, purified, cs., c.l., frt. alld. E. of Rockies..lb. .21 - —
1,000 lbs., same basis.....lb. .23 - —
single pkgs., same basis.....lb. .28 - —
dms., lead-lined, c.l., divd.....lb. .19 - —
Bromoform, USP, bots.....lb. 1.50 - 1.70
cbys.....lb. 1.42 - —
Bromstyrol, bots.....lb. 4.85 - 6.25
Bronze powder, aluminum (see A).
Gold, litho., cans, dms., works..lb. .50 - .60
moulding, cans, dms., works..lb. .80 - 1.00
printing ink, cans, dms., works. lb. .95 - 1.10
radiator, cans, dms., works..lb. .60 - .65
Broomtop, bls.....lb. .29 - .30
Brown, iron, synth., bgs., l.c.l., works. lb. .12 - .12½
Oxide, metallic, bgs., c.l., works.lb. .02¾- .03
Snp, crystals, works.....lb. .12 - —
powdered.....lb. .13 - —
Sienna, burnt, american, works, paper bgs., l.c.l..lb. .06¾- .10¾
Italian type, bgs., works.....lb. .10¾- .14
raw, American, bgs., l.c.l., works.. lb. .05¾- .10¾
Italian type, bbls., works.....lb. .11¾- .12¾
Umber, burnt, American, c.l., bbls., works..lb. .05 - —
l.c.l., bgs., works.....lb. .05¼- —
Turkey type, bgs., c.l., Boston, Bethlehem, Easton, Pa., Hiwassee, Va., N. Y..lb. .05¼- —
l.c.l., works.....lb. .05½- —
raw, American, bgs., same basis. lb. .05¼- .05½
Turkey type, bgs., same basis. lb. .05½- .05¾
Vandyke, bbls., works.....lb. .10 - .11
Brucine, cns., 100 ozs.....oz. .40 - .50
Sulphate, cns., 100 ozs.....oz. .40 - .45
Bryonia root, bls.....lb. .45 - .50
Buchu leaves, bls.....lb. 1.00 - 1.05
Buckhorn bark, bls.....lb. .34 - .35
cut and sifted, bbls.....lb. .45 - .46
Berries, bgs.....lb. 1.00 - 1.10
Butane, indust., tanks, group 3....gal. .04 - —
Burdock root, bls.....lb. .42 - —
Butyl acetate, normal, ferment, Ill., Ind., prod., dms., c.l., works, frt. alld. E. of Miss..lb. .30½- —
l.c.l., same basis.....lb. .31½- —
tanks, same basis.....lb. .29 - —
tankwagons, same basis...lb. .29½- —
other production, dms., c.l., same basis..lb. .30½- —
l.c.l., same basis.....lb. .31½- —
tanks, same basis.....lb. .29 - —
synthetic, dms., c.l., same basis. lb. .18½- —
l.c.l., same basis.....lb. .19 - —
tanks, same basis.....lb. .17 - —
Normal butyl acetate, W. of Miss., ½c. per lb. higher.
secondary, dms., c.l., divd. E. or Miss..lb. .1200- —
l.c.l., same basis.....lb. .1310- —
tanks, same basis.....lb. .1150- —
Alcohol (see Alcohol, butyl).
Aldehyde, dms., c.l., works.....lb. .20½- —
l.c.l., works.....lb. .21½- —
tanks, works.....lb. .19½- —
Ether (see Ether, butyl).
Lactate, dms., c.l., frt. alld. E. of Rockies..lb. .40½- —
l.c.l., same basis.....lb. .41½- —
tanks, same basis.....lb. .39 - —
Laurate, dms., works.....lb. .42 - —
Methacrylate, M-4, dms., works..lb. .60 - —
cns., works.....lb. .63 - .67
P-4, cns., works.....lb. .65 - —
Myristate, dms., works.....lb. No prices.
Oleate, ref., dms., l.c.l., works....lb. .35 - —
tech., dms., c.l., works.....lb. .24 - —
l.c.l., works.....lb. .24½- .25½
Phenylacetate, dms.....lb. 2.00 - 2.25
Phthalate (see Dibutyl phthalate).
Propionate, dms., divd.....lb. No stocks
tanks, divd.....lb. No stocks
Stearate, dms., l.c.l., frt. alld. E. of Rockies..lb. .45 - —
Butyl-isobutyl methacrylate, P-5, 50/50, cns., works..lb. .60 - —
Butyric ether (see Ethyl butyrate).

C

Cadmium bromide, jars.....lb. 1.66 - 1.91
Iodide, cns.....lb. 4.89 - 4.99
Lithopone (see Yellow).
Metal, ingots or sticks, cs., divd..lb. 1.75 - 1.80
patent shapes, cs., divd.....lb. 1.75 - 1.80
Selenide (see Red).
Sulphide (see Yellow).
Caffeine, cryst., dms., 100 lbs. or more. lb. 4.25 - 7.00
anhydrous, dms., 100 lbs. or more. lb. 4.50 - —
Citrated, dms., 100 lbs. or more....lb. 2.75 - —
Hydrobromide, bots.....lb. 6.00 - —
Calabar beans, bgs., futures.....lb. .65 - .66
Calamus root, dom., bls.....lb. .35 - .40
bleached, imported, bls.....lb. .70 - .80
Calciferol, cryst., vials, 10,000 or more standard units (1 standard unit=1,000,000 USP units), works..gram. 4.00 - —
1,000 to 10,000 s.u., works..gram. 4.40 - —
less than 1,000 s.u., works..gram. 4.80 - —
In edible oil, dms., 10,000 or more... .10 - —
1,000 to 10,000 s.u., works...unit. .11 - —
less than 1,000 s.u., works..unit. .12 - —
Calcium acetate, bgs., divd....100 lbs. 3.00 - 4.00
Arsenate, dealers, dms., c.l., whse., works, frt. alld..lb. .09½- —
l.c.l., same basis.....lb. .10½- .11½
Bromide, N.F., jars.....lb. .70 - —
Carbide, dms., c.l., works.....ton.70.00 -90.00
delivered.....ton.102.00 -109.00
Carbonate (see Chalk and Whiting).
Chloride, cryst., purified, bbls., jars. lb. .28 - .30
flake, 77-80%, paper bgs., c.l., divd. ton.21.50 -38.00
l.c.l., divd.....ton.31.50 -48.00
liquor, works, basis 40%.....ton. 8.50 - —
solid, 73-75%, dms., c.l., divd..ton.21.00 -37.50
l.c.l., divd.....ton.81.00 -84.15
Calcium chloride prices vary according to zone. minimum prices are for spot delivery. C.l. prices for flake in burlap bgs., $2.50 per ton higher; dms., $3.50 per ton higher.
Cyanide, dms., delivered, E. of Rockies..lb. .35 - .40
Gluconate, AA, bbls.....lb. .65 - .72
cns.....lb. .83 - .90
USP, bbls.....lb. .58 - .65
cns.....lb. .76 - .83
Hydride, dms., works.....lb. .90 - —
Glycerophosphate, NF, fib. dms..lb. 1.80 - —
Hypochlorite, 100-lb. dms., divd. E. of Rockies..dm.24.00 -28.50
cans, cased (45 lbs.) same basis..cs.19.75 -21.50
Iodide, jars.....lb. 4.12 - —
Lactate, USP, dms.....lb. .34 - .41
Laurate, bbls.....lb. .43 - .44
Mandelate, USP, dms., works.....2.35 - 2.60
Naphthenate, 5% Ca, dms.....27 - —
Pantothenate, dex., jars.....kilo 75.50 - —
Phosphate, feeding grade, bgs., works. ton.75.50 - —
food grade, bbls., 10 or over, works. lb. .07 - .07¾
less than 10, works.....lb. .08 - .10
medicinal, dibasic, bgs.....100 lbs.11.40 -19.00
monobasic, cryst., bgs., c.l., works, frt equald..lb. 6.50 - —
l.c.l., same basis.....lb. 6.75 - —
tribasic, bbls., c.l. works.....lb. 6.50 - 6.80
bgs., l.c.l., works.....lb. 6.85 - 7.30
Phytate, bgs., works.....lb. .22 - —
Resinate, precip., 6.8% Ca, dms..lb. .20 - —
Silicate, hydrated, bgs., c.l., works. .05½- —
l.c.l., works.....lb. .06 - —
Stearate, precip., ctns., c.l., works. lb. .44 - —
l.c.l., works.....lb. .45 - .46
Sulphate (see Gypsum).
Sulphide, 70%, bgs., c.l., works..ton.45.00 - —
70%, bgs., c.l., works.....ton.50.00 - —
luminous tins works.....lb. 1.25 - —
Sulphocarbolate bbls., dms.....lb. .49 - .54
Calcium-strontium sulphide, phosphorescent, dms., works.....lb. 1.06 - 1.50
fine particle size, works.....lb. 1.50 - 1.75

Borax, Technical, Powdered—Cardamom Seed

Calendula flowers, bls.....lb. 1.00 - 1.05
Calomel, USP, cryst., dms.....lb. 2.10 - 2.11
fine powd., dms.....lb. 2.25 - 2.26
Camphor, monobromated, dms.....lb. 3.20 - —
Camphor, natural.....lb. No stocks.
synth., tech., bbls., 2,000 lbs. or more, works..lb. .45 - —
10 bbls. (1,500 lbs.).....lb. .47½- —
smaller lots.....lb. .48 - .58
Camphor, synthetic, USP, gran., powd., bbls., 2,000-lb. lots..lb. .72 - —
1,000-lb. lots.....lb. .73 - —
smaller lots.....lb. .74 - —
tablets, tins, 2,000-lb. lots..lb. .86 - —
1,000-lb. lots.....lb. .87 - —
smaller lots.....lb. .88 - —
Canada balsam (see Fir balsam).
Cantharides, Chinese, cs.....lb. 2.25 - 2.50
powd., bxs.....lb. 2.50 - 2.75
Russian, bgs.....lb. 7.00 - 7.25
powd., bxs.....lb. 7.25 - 7.50
Capsicum (see Pepper, red).
Oleoresin, NF VIII, ens.....lb. 6.50 - 6.75
Caramel coloring, bbls.....gal. 1.25 - —
Caraway seed, Danish, bgs.....lb. .18 Nom.
Dutch, bgs.....lb. 18½- .19
futures, new crop, bgs.....lb. 18¼- 18¾
Carbazole, 97%, dms., ton lots, works. lb. 1.10 - 1.30
smaller lots, works.....lb. 1.20 - —
Carbinol, butyl, norm., dms., l.c.l., works..lb. .42 - —
secondary, dms., l.c.l., works..lb. .70 - —
Isobutyl, dms., c.l., works.....lb. .51 - —
l.c.l., works.....lb. .52 - —
tanks, works.....lb. .50 - —
Methylisobutyl, dms., c.l., frt. alld. E..lb. .14½- —
l.c.l., same basis.....lb. .15 - —
tanks, same basis.....lb. .12 - —
Carbon bisulphide, 50-gal. dms., c.l., works, frt. alld. to competitive points..lb. .05½- —
l.c.l., same basis.....lb. .06½- —
5-gal. dms., c.l., same basis..lb. .07½- —
l.c.l., same basis.....lb. .08½- —
Dioxide, cyls.....lb. .06 - .08
Tetrachloride, CP, dms., c.l.....lb. .11 - —
l.c.l.....lb. .11½- —
tech., dms. zone 1, c.l., frt. alld.lb. .07 - —
l.c.l.....lb. .07½- —
zone 2, c.l., frt. alld.....lb. .07½- —
l.c.l.....lb. .08½- —
zone 3, c.l., frt. alld.....lb. .08 - —
l.c.l., frt. alld.....lb. .09½- —
zone 4, c.l.....lb. .07½- —
l.c.l.....lb. .08 - —
USP, cbys.....lb. .17 - .19
Carbon tetrachloride sales zones are:—1, Conn., Del., Ill., Ind., Ia., Me., Mass., Md., Mich., Minn., Mo., N. H., N. J., N. Y., N. C., O., Pa., R. I., Tenn., Va., W. Va., Wis., and river cities of Burlington, Ia., and Kansas City, Kans.; 2, Ala., Ark., Fla., Ga., Kans., La., Miss., Neb., N. D., Okla., S. C., S. D.; 3, Colo., N. Mex., Tex., and Montana points E. of Billings; 4, Ariz., Cal., Idaho, Nev., Ore., Utah, Wash. and Montana points W. of Billings. Zone 4 prices are f.o.b. cars, L. A., Calif., S. F., Calif., Portland, Ore., and Seattle, Wash.
Cardamom fruit, bleached, bold, cs..lb. 1.75 - 1.80
medium, cs.....lb. 1.40 - 1.45
decorticated, Guatemalan, cs....lb. 1.10 - 1.15
Indian, cs.....lb. 1.15 - 1.20
green, Alleppey, bgs.....lb. 1.05 - 1.10
Seed (see Cardamom fruit, decorticated).

ASPIRIN USP
RESORCIN USP Recrystallized
GLUCOSE 45° Bé
MAGNESIUM OXIDE Heavy
FORMIC ACID 90%
SODIUM SULPHIDE
NICKEL ANODES
BLEACHING POWDER 70%
TRICHLORETHYLENE
ANILINE OIL
DIRECT BLACK
PHOSPHORIC ACID 85%
SULPHUR BLACK
ATABRINE TABLETS
CHROME ORANGE, C.P.

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420 LEXINGTON AVENUE
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Carotene—Copper Chloride

Carotene, cryst, research grade tins, works..gram. 5.00 - —
in vegetable oil (alpha, 10%, beta, 90%), amps., 100 grams, dlvd. gram. 2.85 - —
50 grams, dlvd.....gram. 2.90 - —
tech., tins, works.....lb. .67½- —
diluted, dry powd., 3,330 A units per gm., bots., works..lb. .70 - —
vegetable oil, 250,000 A units per gm., bots., works..lb.37.80 - —
50,000 A units per gm., bots., works..lb. 7.87 - —
3,330 A units, per gm., bots., works..lb. .85 - —
Carvol, bots.....lb.13.00 -16.00
Cascara sagrada bark, bulk.....lb. .40 - .43
Case-hardening mixture, 30% gran., dms., l.c.l..lb. .09¾- —
slabs, dms., l.c.l.....lb. .08¾- —
Casein, dom., acid-precip., bgs., 10,000 lbs. or more, ship't point..lb. .30 - .32
rennet-precip., 10,000 lbs. or more same basis..lb. .34 Nom.
imp., acid-precip., ground, bgs., 100 bgs. or more..lb. .28 - .30
rennet-precip., unground, 100 bgs. or more..lb. .36 Nom.
smaller lots.....lb. .37 Nom.
Cassia bark, Batavia, No. 1, short-stick, bls..lb. .60 Nom.
broken, bls.....lb. .18 - .18½
thinquill, bls.....lb. .60 Nom.
China, rolls, select, cs.....lb. .12 - .12½
broken, bls.....lb. .08½- .09
Kwangsi, broken, bls.....lb. .16½- .17
Cassia, Saigon, broken, bls.....lb. .28 - .29
medium, bls.....lb. .40 - .41
thin, bls.....lb. .45 - .46
Yunnan, bls.....lb. .14½- .15
Buds, China, bgs.....lb. .23½- .24
Cassia fistula, bskts.....lb. .26 - .28
Castor beans, bgs., Brazilian ports.. long ton.185.00 -190.00

Oil (see Oil, castor).

Pomace, bgs., c.l., works.....ton.40.00 - —
Castoreum, nat., cns.....lb.39.00 - —
Catechol, CP, cryst., works, fib. dms.lb. 2.00 - —
resublimed, works, dms.....lb. 3.25 - —
Catnep, bls.....lb. .68 - .70
Celery seed, French, bgs.....lb. .31 - .32
Indian, bgs.....lb. .22 - .22½
futures, bgs.....lb. .21½- .22

Celluloid scrap (see Pyroxylin scrap).

Cellulose acetate, flake, ctns., works, frt. alld. on 100 lbs. or more..lb. .36 - —
granules, ctns., same basis.....lb. .42 - —
molding composition, plain colors, pearls, special black, dms., c.l., frt. alld..lb. .47 - —
l.c.l., same basis.....lb. .49 - 54
regular black, dms., l.c.l., same basis..lb. .35 - .39
variegations, dms., l.c.l., same basis..lb. .54 - .59
acetate-butyrate, flake, low butyryl content, 15.5-17%, ctns., 5,000 lbs., frt. alld..lb. .49 - —
1,000 lbs., frt. alld.....lb. .50 - —
100 lbs., frt. alld.....lb. .51 - —
smaller lots, works.....lb. .52 - —
Cellulose acetate-butyrate, medium butyryl content, 36.5%, ctns., 5,000 lbs., frt. alld..lb. .51 - —
1,000 lbs., frt. alld.....lb. .52 - —
100 lbs., frt. alld.....lb. .53 - —
smaller lots, works.....lb. .54 - —
high butyryl content, 47-50%, ctns., 5,000 lbs., frt. alld. lb. .57 - —
1,000 lbs., frt. alld.....lb. .58 - —
100 lbs., frt. alld.....lb. .59 - —
smaller lots, works.....lb. .60 - —
molding composition, plain colors, pearls, special black, dms., l.c.l., frt. alld..lb. .56 - .61
regular black, dms., l.c.l., same basis..lb. .47 - .51
variegations, dms., l.c.l., same basis..lb. .61 - .66
Triacetate, flake, ctns., works, frt. alld. on 100 lbs. or more..lb. .40 - —
Cerium hydrate, dms., works.....lb. 1.00 - —
Oxalate, NF, bbls., kgs., works..lb. .70 - .72
Oxide, optical grade, bgs., under 100 lbs., works..lb. 2.25 - —
kgs., 100-lb. lots, works.....lb. 1.75 - —
Chalk, precip., cosmetic, dentifrice, drugs, bgs., c.l., works..lb. .02⅝- .05½
l.c.l., ex whse.....lb. .04 - —
paint, bgs., c.l., works.....ton.40.00 - —
papermakers, bgs., c.l., works.ton.32.50 -40.00
rubber makers, bgs., c.l., works.. ton.30.00 - —
Chamomile, Hungarian type, cs....lb. .65 - .70
Roman, bls., futures.....lb. 1.45 - 1.50
Charcoal, hardwood, briquets, bulk, c.l., works..ton.49.50 - —
bgs., c.l., works.....ton.54.50 -55.50
granular, bgs., incl., c.l., works, ton.50.50 - —
Charcoal, hardwood, lump, bulk, c.l., works..ton.39.50 -43.50
bgs., extra, returnable, c.l., works..ton.42.50 -45.50
screenings, bgs., works.....ton.33.50 - —
Pinewood, gran., powd., bgs., c.l., works, South..ton.40.00 - —
l.c.l., works.....ton.50.00 -60.00
lump, bgs., c.l., works, South..ton.35.00 - —
Willow, powd., bbls.....lb. .06 - .07
Chestnut extract, powd., 65% tannin, bgs., extra, c.l., works..lb. .1040- —
l.c.l., works.....lb. .1115- —
solid, 25% tannin, bbls., c.l., works, lb. .0435- —
l.c.l., works.....lb. .0460- —
tanks, works.....lb. .0375- —
China clay, dom., dry-grd., air-float, 99.75% 200 mesh, bgs., c.l., works..ton.10.00 -13.00
l.c.l., works.....ton.14.00 -16.00
bulk, c.l., works.....ton. 9.00 - —
99% 200 mesh, bgs., c.l., works..ton.10.00 -12.00
l.c.l., works.....ton.11.00 -16.00
wet-grd., silk-bolt, 90½% 325 mesh, bulk, c.l., works..ton.13.00 - —
paper bgs., c.l., works..ton.15.00 - —
Imported, white lump, bulk, c.l., ex dock Balto., Boston, Norfolk, Phila..ton.51.25 - —
powd., bgs., l.c.l, ex whse..ton.60.00 -100.00
Chloral, dms., works.....lb. .45 - .50
Hydrate, jars.....lb. .93 - .98
Chlordane, agricultural, dms., c.l., frt. alld..lb. 1.50 - —
l.c.l., frt. alld.....lb. 1.55 - 1.70
refined, dms., c.l., frt. alld.....lb. 1.65 - —
l.c.l., frt. alld.....lb. 1.70 - 1.85
technical, cns., c.l., works.....lb. 1.55 - —
l.c.l., works.....lb. 1.60 - 1.80
Chlorinated rubber, standard, ctns., 100 lbs. up, works..lb. .40 - —
smaller lots, works.....lb. .43 - —
Chlorine, liquid, cyls., c.l., works..lb. .07 - .12
l.c.l., stock points.....lb. .09 - .15½
tanks, single units, works, frt. equald..100 lbs. 2.25 - —
multiple units, 3 cars, works, frt. equald..100 lbs. 2.35 - —
2 cars, same basis....100 lbs. 3.15 - —
1 car, same basis.....100 lbs. 3.75 - —
Chloroform, tech., dms.....lb. .20 - .23
USP, dms.....lb. .30 - .33
Chloro-orthotoluidine (Red KB base). bbls..lb. 1.38 - —
Chloropicrin, com'l, bots., ex whse..lb. 1.25 - —
cyls., 180-lbs., works, frt. alld..lb. .80 - —
100-lbs., same basis.....lb. .82 - —
25-lbs., ex whse.....lb. 1.00 - —
Choline chloride, fib dms., works..lb. 3.00 - 3.10
feed grade, fib. dms., works..lb. 2.00 - —
Dihydrogen citrate, fib. dms., works, bl. 3.00 - 3.10
Chrome acetate, powd., 72% Cr., bbls., works..lb. No stocks
solut., 7½%, bbls., cs.....lb. .09¾- —
8½%, bbls., cs.....lb. .09¾- —
Cake, bulk, c.l., works.....ton.16.00 - —
Fluoride, bbls., works.....lb. .24 - .27
Green (see Green, chrome).
Oxide (see Green, chrome oxide).
Trioxide (see Acid, chromic).
Yellow (see Yellow, chrome).
Chrysarobin, bots.....lb. 6.02 - 8.00
Cinchona bark, USP, red, quill, 30-in., cs..lb. 1.26 Nom.
Cinchonidine, small cryst., cns., 100 ozs..oz. 1.02½- —
Cinchonine, large cryst., cns., 100 ozs. oz. .79½- —
small cryst., cns., 100 ozs.....oz. .75½- —
Sulphate, NF, cns., 100 ozs.....oz. .55½- —
Cinchophen, NF, heavy, dms., works, lb. 4.20 - 4.30
standard, dms., works.....lb. 4.00 - 4.10
Cinnamic alcohol (see Alcohol, cinnamic).
Aldehyde, chys., cns., dms.....lb. .82 - 1.25
Cinnamon, Ceylon, No. 2, bls.....lb. .40 - .41
due soon.....lb. .37 - .38
Citral, bots., cns.....lb. 3.90 - 6.00
Citronellal, bots., dms.....lb. 2.75 - —
Citronellol, bots., dms.....lb. 3.85 - 4.75
Cloves, Madagascar, bls.....lb. .15 - .15½
futures, bls.....lb. .12½- .13
Zanzibar, bls.....lb. .16¾- .17½
Clover tops, red, dom., bgs.....lb. .65 - .70
imported, bgs.....lb. No stocks.
Coaltar, coal-gas, crude, dms., c.l., works..dm. 9.50 - —
l.c.l., works.....dm.10.00 - —
tanks, works.....gal. .09 - —
refd., bbls., c.l., works.....bbl.10.09 - —
l.c.l., works.....bbl.10.50 - —
tanks, works.....gal. .10 - —
water-gas, crude, dms., c.l., works, gal. .21 - —
l.c.l., works.....gal. .22 - —
tanks, works.....gal. .11 - —
refd., dms., c.l., works.....gal. .22 - —
l.c.l., works.....gal. .23 - —
Cobalt acetate, bbls., kgs., dlvd..lb. .83¾- —
Carbonate, powd., bgs., works..lb. 1.58 - —
feed grade, 49½% Co, kgs.....lb. 1.58 - —
Chloride, kgs., works.....lb. .87½- —
feed grade, 24.5% Co, kgs.....lb. 1.25 - —
Hydrate, bbls.....lb. 2.04 - —
feed grade, 62% Co, kgs.....lb. 2.04 - —
Linoleate, paste, 6% Co, dms..lb. .58¾- —
solid 8½% Co, dms.....lb. .66¾- —
8% Co, dms.....lb. .62¾- —
Naphthenate, solid, 6% Co, dms..lb. .35½- —
Nitrate, feed grade, 20.4% Co, bbls, lb. .75¾- —
Oleate, bbls.....lb. .44 Nom.
Oxide, black, kgs.....lb. 1.27½- 1.80
Phosphate feed grade, 34% Co, kgs. lb. 1.26½- —
Resinate, precip., 7.5% Co, dms...lb. .38½- —
Soyate, solid, 8.5% Co, dms.....lb. .56½- —
Sulphate, dms.....lb. .65 - —
feed grade, 21% Co, kgs.....lb. 1.00 - —
Cobalt salts, feed grade quotations are f.o.b. Phila., Cleve. or N. Y.
Cobalt-ammonium sulphate, 14% Co, kgs..lb. .75 - —
Cocaine hydrochloride, cns., 100-oz. lots..oz. 9.75 - —
Cochineal, gray, bgs.....lb. .67 - .68
silver, Teneriffe, bgs.....lb. .69 - .70
Cocoa butter, bgs.....lb. .75 Nom.
Cocillana bark, ogs.....lb. .45 - .46
Codeine, cns., 100 ozs.....oz.13.25 - —
Hydrochloride, crs., 100 ozs.....oz.11.85 - —
Phosphate, cns., 100 ozs.....oz.10.25 - —
Sulphate, cns., 100 ozs.....oz.10.75 - —
Codliver oil (see Oil, codliver).
Cohosh black, root, bls.....lb. .22 - .23
Blue, bls.....lb. .22 - .23
Colchicum seed, bgs.....lb. 4.00 - 4.25
Colchinine, bots., cns.....oz. No stocks
Collodion, USP, dms.....lb. .24 - .29
Flexible, USP, dms.....lb. .25½- .30¼
Colocynth pulp, bls.....lb. .50 - .52
Colombo roots, bls.....lb. .16 - .17
Coltsfoot leaves, bgs.....lb. .43 - .44
Condurango bark, bgs., futures....lb. .25 - .26
Copaiba balsam, cns., dms.....lb. .65 - .70
Copper acetate, cupric, bbls., works lb. .28 - —
smaller containers, works.....lb. .29 - .30
Carbonate, 52-54%, bbls.....lb. .24 - .26
Chloride, anhyd., bbls.....lb. .26½- —
crystals, bbls.....lb. .17¾- —

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Sulfadiazine U.S.P.
(powder and micro crystal)
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Sodium Sulfadiazine U.S.P.
Sulfamerazine U.S.P.
(powder and micro crystal)
Sodium Sulfamerazine U.S.P.
Sulfanilamide U.S.P.
(powder, crystal and micro crystal)
Sulfathiazole U.S.P.
(powder, crystal and micro crystal)
Sodium Sulfathiazole U.S.P.
Sulfapyridine N.F.
Sodium Sulfapyridine
Aminoacetic Acid N. F.
Calcium Pantothenate (Dextro)
Choline Chloride
Choline Dihydrogen Citrate
Cinchophen N.F.
(and Sodium Salt)
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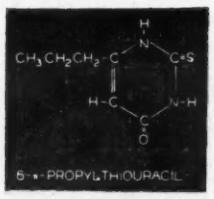

Calco now announces Propylthiouracil (6-n Propylthiouracil), a notable addition to thyrotoxicosis therapy. Propylthiouracil has proved to be as effective as Thiouracil on far lower dosage levels and it does not exhibit the undesirable side effects of the related compound. In addition, it is well tolerated by patients previously exhibiting sensitivity to Thiouracil. For more complete information about Propylthiouracil, write for Calco Technical Bulletin No. 720.

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CALCO CHEMICAL DIVISION
AMERICAN CYANAMID COMPANY
Bound Brook, New Jersey

Copper, cyanide, tech., bbls.....lb. .40½ - —
Hydrate, dms., del. E. Miss.....lb. .26¼ - .26¾
Metal, electrolytic .....lb. .21½ - —
Naphthenate, liquid, 8% Cu, dms., dlvd..lb. .31 - —
solid, 11% Cu, dms., dlvd.....lb. .27½ - —
Nitrate, tech., cryst., bbls., works, lb. .25 - .28
Oleate, solid precip. Cu 10%, bbls..lb. .36¾ - —
Oxide, black, bbls., works.....lb. .28 - .30
red, com'l, bbls., works.....lb. .30 - .32¼
Oxychloride-sulphate, bgs.....lb. .24 - —
Resinate, precip., 8.5% Cu, dms..lb. .21½ - —
Stearate, bgs., works.....lb. .35½ - —
Sulphate, cryst., 99%, bgs., c.l. works..100 lbs. 7.60 - —
l.c.l. .....100 lbs. 7.85 - 8.60
monohydrated, 35%, dms., c.l., dlvd. 100 lbs.12.55 -12.80
l.c.l., dlvd.....100 lbs.13.55 - —
tribasic, dealers, bgs., works, c.l. lb. .21½ - .22½
l.c.l., works.....lb. .23 - .23½
Copperas, cryst., gran., bgs., c.l., works..ton.17.00 - —
l.c.l., works.....100 lbs. 1.35 - 2.00
bbls., c.l., works.....ton.20.00 - —
bulk, c.l., works.....ton.14.00 - —
Copra, c.i.f., Pacific ports.....ton.240.00 - —
Atlantic or Gulf ports.....ton.236.00 -240.00
Coriander seed, Argentine, bgs, futures. lb. .10 - .10½
Indian, bgs. .....lb. No stocks
Moroccan, bgs., futures.....lb. .09½ - .10
Corn sugar, tanners, chipped, paper bgs., c.l., 60,000 lbs. min..100 lbs. 6.87 - —
bbls., c.l., same basis..100 lbs. 6.92 - —
Syrup, 42°, bbls., c.l.....100 lbs. 7.23 - —
l.c.l. .....100 lbs. 7.28 - —
Cornsilk, bls. .....lb. .29 - .30
Corrosive sublimate, NF, cryst., dms., 50 lbs. or more..lb. 1.93 - —
gran., powd., dms., 50 lbs. or more..lb. 1.78 - —
Cottonroot bark, bls.....lb. .40 - .45
Cottonseed hull ash, 32-36% potash, bgs., dlvd..unit-ton. No prices
Meal, 41% protein sacked, c.l. mills, S.E..ton.84.00 -85.00
Coumarin, cns., 25 lbs.....lb. 2.75 - 3.25
smaller lots .....lb. 2.90 - 3.30
Cramp bark, NF, bls.....lb. .80 - .85
Cream of tartar, dom., USP, gran. or powd., bbls., 5,000 lbs. one ship't..lb. .41½ - —
bbls., kgs., smaller lots.....lb. .42 - .42½
Creosote, beechwood, bots., cbys....lb. 1.05 - 1.10
Coaltar (see Cresol).
Hardwood, N. F., bots., cbys.....lb. .80 - .85
Pinewood, dms.....gal. .31 - .32
Carbonate, bots., cbys.....lb. 2.30 - 2.40
Oil, coaltar, crude, tanks, works..gal. .17½ - .19½
refined, dms., c.l., works.....gal. .30 - .36½
l.c.l., same basis.....gal. .33 - .37
tanks, same basis.....gal. .22 - .25
solution, 80%, tanks, works..gal. .16 - .18
Cresol, tech., dms., c.l., works, frt. equald..lb. .14¾ - .15½
l.c.l., same basis.....lb. .15¼ - .15¾
tanks, same basis.....lb. .14 - .14½
USP, dms., c.l., same basis.....lb. .14¾ - .15¼
l.c.l., same basis.....lb. .15¼ - .15¾
tanks, same basis.....lb. .14 - .14½
Crotonaldehyde, 91-93% dms., 55 and 110 gals., l.c.l., works..lb. .16½ - .17
5 and 10-gals., l.c.l., works....lb. .22 - —
Cryolite, nat., dealers, bgs., bbls., c.l., works..100 lbs.12.75 - —
bbls., l.c.l., works.....100 lbs.14.00 - —
Cube root, 5% rotenone, bbls., works.lb. .48 - —
4% rotenone, bbls., works.....lb. .38 - —
Cubeb berries, XX, bgs.....lb. .75 - .80
powd., cs.....lb. 1.00 - 1.05
Culvers root, bbls.....lb. .44 - .45
Cumin seed, Cyprian, bgs.....lb. No stocks
Indian, bgs, futures.....lb. .40 - .41
Moroccan, bgs.....lb. No stocks
Persian, bgs. .....lb. .24½ - .25
Syrian, bgs. .....lb. .25 - .26
Cutch, 65% tannin, bgs., ex dock...lb. .12 - —
Cyanamide, fertilizer mixing grades, 20.6% N., gran., bulk, Niagara Falls, Ont., contracts, bulk.. unit-ton. 2.15 - —
pulv., 21% N., bgs., same basis, unit-ton. 2.05 - —
Cyclohexane, tech., dms., c.l., works.lb. .09½ - —
l.c.l., works.....lb. .10 - —
tanks, works.....lb. .08 - —
Cyclohexanol, tech., dms., c.l., works.lb. .21½ - —
l.c.l., works .....lb. .22 - —
tanks, works .....lb. .20 - —
Cyclohexanone, tech., dms., c.l., works, lb. .26½ - .30
l.c.l., works.....lb. .27 - .31
tanks, works.....lb. .25 - .29
Cyclohexylamine, dms., works.....lb. .32 - —
Cyclopropane, USP, cyls., dlvd...gal. .27 - —

D

Damiana leaves, bls.....lb. .85 - .90
Dandelion root, bls.....lb. .67 - —
DDT, fiber, dms., c.l., works.....lb. .37½ - —
ton lots, works.....lb. .40 - —
tins, smaller lots, works.....lb. .45 - .47
Decanol, normal, tech., dms., dlvd..lb. .35 - —
Deertongue leaves, bls.....lb. .35 - .40
Defluorinated phosphate, 65% b.p.l., paper bgs., Columbus, Ga..ton.39.25 - —
Texarkana, Ark.....ton.41.00 - —
Tupelo, Miss.....ton.39.25 - —
Wales, Tenn.....ton.39.25 - —
Rock, paper bgs.. works.....ton.34.25 - —
Degras, common, bbls.....lb. .10 - .12
Neutral, less 2% ffa., bbls.....lb. .20 - .21
over 2% ffa., bbls.....lb. .19 - .20
Derris root (see Cube root).
Dextrin, British gum, bgs., c.l..100 lbs. 8.55 - —
Chicago .....100 lbs. 8.10 - —
l.c.l. .....100 lbs. 8.70 - —
Corn, Canary, bgs., c.l.....100 lbs. 8.29 - —
Chicago .....100 lbs. 7.84 - —
l.c.l. .....100 lbs. 8.44 - —
dark, bgs., c.l.....100 lbs. 8.39 - —
Chicago .....100 lbs. 7.94 - —
l.c.l. .....100 lbs. 8.54 - —
white, bgs., c.l.....100 lbs. 8.14 - —
Chicago .....100 lbs 7.69 - —
l.c.l. .....100 lbs 8.29 - —
Above prices are for dextrin in paper bgs.; cotton bgs., 17c. higher.
Potato, dom., bgs.....lb. .13½ - .14
Diacetone (see Alcohol, diacetone).
Diacetyl, flavor grade, bots.....lb. 5.20 - 5.55
laboratory grade, bots....100 grams. 4.50 - —
tech., bots., works.....lb. 3.00 - —
Diamyl ether (see Ether, amyl).
Phthalate, dms., tanks.....lb. No prices
Diamylamine, dms., c.l., works.....lb. 1.47 - —
l.c.l., works .....lb. 1.50 - —
Dianisidin, dms. .....lb. 1.54 - —
Diatomaceous earth, dom., bgs., c.l., Atlantic coast..ton.50.00 -52.00
California .....ton.38.00 -40.00
l.c.l., ex whse.....ton.80.00 - —
purified, bgs., c.l., Atlantic coast. ton.62.00 - —
California .....ton.50.00 - —
l.c.l., ex whse.....ton.90.00 - —
Imported, Algerian, bgs., c.l., Atlantic coast..ton. No prices
Mexican, white, bgs., c.l., Atlantic coast..lb. .03 - —
l.c.l., Atlantic coast.....lb. .06 - —

Dibutyl phthalate, dms., c.l.....lb. .33¾ - .36
l.c.l. .....lb. .34 - .36½
tanks .....lb. .32 - .34½
Sebacate, dms., c.l., works.....lb. .78¾ - —
l.c.l., works .....lb. .79¼ - —
tanks, works .....lb. .77¾ - —
Tartrate, dms., wks., frt. alld....lb. .92 - 1.02
Dibutylamine, dms., c.l., works.....lb. .52½ - —
l.c.l., works.....lb. .53½ - —
tanks, works.....lb. .50 - —
Dichloroanilin, dms., works.....lb. .66 - —
Dichlorodiphenyldichloroethane, flb. dms., c.l., works..lb. .42½ - —
ton lots, works.....lb. .45 - —
tins, small lots, works.....lb. .48 - 50
Dichlorodiphenyltrichloroethane (see DDT).
Dichloroethyl ether (see Ether, dichloroethyl).
Dichlorophenol, dms., frt. equald....lb. .26 - —
Dicyclohexylamine, dms., works....lb. .38 - —
Dicyclohexylphthalate, flb. dms., c.l., works..lb. .42½ - —
l.c.l., same basis.....lb. .43 - —
Diethanolamine, dms., c.l., frt. alld. E..lb. .25 - —
l.c.l., same basis.....lb. .26 - —
smaller containers, same basis....lb. .29 - —
tanks, same basis.....lb. .23½ - —
Diethyl carbonate, dms., l.c.l.....lb. .40 - —
Oxalate, dms., c.l.....lb. .35½ - —
l.c.l. .....lb. .36½ - —
tanks .....lb. .34 - —
Phthalate, dms., c.l., dlvd.....lb. .31½ - .32¾
dms., l.c.l., dlvd.....lb. .32 - .33½
tanks, dlvd. .....lb. .30 - .31½
Sulphate, dms., c.l., works.....lb. .14 - —
l.c.l., works .....lb. .15 - —
tanks, works .....lb. .13 - —
Diethylamine, dms., c.l., works....lb. .69 - —
l.c.l., works .....lb. .71 - —
tanks, works .....lb. .65 - —
Diethylaminoethanol, dms., l.c.l., works frt. alld. E. of Miss....lb. .75 - —
Diethylaniliu, dms. .....lb. .48 - —
Diethyleneglycol, dms., c.l., frt. alld. E..lb. .15 - —
l.c.l., same basis.....lb. .16 - —
tanks, same basis.....lb. .13¼ - —
Diethylether, dms., works.....lb. .40 - —
Monobutylether, dms., c.l., works, lb. .22 - —
l.c.l., works .....lb. .23 - —
tanks, works .....lb. .21 - —
Monobutylether acetate, dms., c.l., works..lb. .27½ - —
l.c.l., works.....lb. .28½ - —
tanks, works .....lb. .26½ - —
Monoethylether, dms., c.l., works.lb. .17 - —
l.c.l., works .....lb. .18 - —
tanks, works .....lb. .16 - —
Monoethylether acetate, dms., c.l., works..lb. .25½ - —
l.c.l., works .....lb. .26½ - —
Monomethylether, dms., c.l., works. lb. .21½ - —
l.c.l. .....lb. .22½ - —
tanks .....lb. .20½ - —
Monomethylether acetate, dms., c.l., works..lb. .21½ - —
l.c.l., works .....lb. .22½ - —
Diethylenetriamine, tanks, works...lb. .50 - —
Diethylstilbesirol, bots. .....kilo.325.00 -330.00
Digitalin, cryst., bots.....gram.18.00 -19.00
powd., bots. .....gram. 1.26 - 1.75
Digitalis leaves, dms.....lb. 1.05 - 1.15
Diglycol laurate, dms.....lb. .33 - —
Oleate, light, bbls., c.l.....lb. .33 - —
Stearate, bbls., c.l.....lb. .40 - —
Dihydroxydichlorodiphenylmethane, dms..lb. .95 - 1.00
smaller containers .....lb. 1.05 - 1.40

Copper Cyanide—Diorthotolylguanidin

Di-isobutyl ketone, dms., works....lb. .19 - —
Di-isobutylene, dms., c.l., works....lb. .07 - —
l.c.l., works .....lb. .07½ - —
tanks, works .....lb. .05½ - —
Dillseed, decorticated, bgs.....lb. .16 Nom.
dewhiskered, bgs. .....lb. .12 - .12½
Dimethyl phthalate, dms., c.l., dlvd. lb. .24¾ - —
l.c.l., dlvd. .....lb. .25½ - —
tanks, dlvd. .....lb. .23½ - —
Sebacate, dms., c.l., works.....lb. .91 - —
l.c.l., works .....lb. .91½ - —
tanks, works .....lb. .90 - —
Sulphate, ret. 55-gal. dms., c.l., works..lb. .15 - —
l.c.l., works .....lb. .16 - —
ret. 10-gal. dms., works.....lb. .16½ - —
Dimethylamine, anhyd., cyl., works, basis 100%..lb. .38½ - .48½
25%-40%, dms., c.l., works, basis 100%..lb. .38 - —
l.c.l., works, basis 100%.....lb. .38½ - —
tanks, works, basis 100%.....lb. .33 - —
Dimethylanilin, dms., c.l. .....lb. .21 - .24¼
l.c.l. .....lb. .22 - —
Dinitroanilin, dms., frt. equald....lb. .50 - —
Dinitrobenzene, bbls. .....lb. .16 - —
Dinitrochlorobenzene, dms. .....lb. .14 - .15½
Dinitronaphthalene, kgs. .....lb. .35 - .38
Dinitrophenol, bbls.....lb. .22 - —
Dinitrotoluene, oily, dms. .....lb. .07 - .07¾
refd., dms. .....lb. .18 - —
Dinonylnaphthalene, tanks, works.lb. .15 - —
Diorthotolylguanidin, dms., ton lots, dlvd..lb. .44 - —
smaller lots, dlvd. .....lb. .46 - .47

FROM SHELL CHEMICAL—

high purity

Intermediates

...providing a wide range of specific reactions

● Does your synthesis require an intermediate with a particular functional group *in a particular position?* Then consider the wide range of Shell Chemical intermediates.

Nearly every major family of organic chemicals is represented in the Shell line, and each intermediate is outstanding for a variety of specific reactions.

an unsaturated aldehyde	ACROLEIN
a chlorinated alcohol	GLYCEROL DICHLOROHYDRIN
an unsaturated alcohol	ALLYL ALCOHOL
an unsaturated chloride	ALLYL CHLORIDE
a chlorinated epoxy compound	EPICHLOROHYDRIN
a conjugated diolefin	METHYLPENTADIENE
a saturated trichloride	1,2,3-TRICHLOROPROPANE
a tertiary alcohol	TERTIARY BUTYL ALCOHOL
a tertiary olefin	DIISOBUTYLENE
a simple ketone	ACETONE

EXAMPLES ● ● ● ● ● ● ● ●

With many of these intermediates, you may react one functional group at a time, leaving other groups available for later reactions.

This poly-functional characteristic, plus their high purity, make Shell Chemical intermediates valuable in the synthesis of a large number of end-products.

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Dioxan—Ethyleneglycol Monoethylether Acetate

Dioxan, dms., c.l., frt. alld.....lb. .20 - —
l.c.l., same basis.....lb. .21 - —
tanks, same basis.....lb. .19 - —
Dip oil (see Tar acid oil).
Dipentene, dest.-dist., dms., incl., c.l., works, South..gal. .45 - —
l.c.l., same basis.....gal. .46 - —
N. Y. whse. .....gal. .60 - —
steam-dist., dms., c.l., whse, NYC. lb. .59 - —
l.c.l., same basis.....lb. .62 - —
Diphenyl, bbls., c.l., works.....lb. .15 - —
l.c.l., works .....lb. .16 - .20
Oxide, perfume grade, cns.....lb. .60 - .61
dms. .....lb. .45 - .56
Diphenylamine, bbls. .....lb. .25 - —
Diphenylguanidin, dms., ton lots..lb. .35 - —
smaller lots .....lb. .36 - .37
Divi-divi, 38% tannin, bgs., bls., c.l., U.S. ports, ex dock..ton.60.00 -62.00
Doggrass root, dom., cut, bls.....lb. .27 - .28
imp., N.F., cut bls.....lb. .31 - .32
Dogwood, Jamaica, bark, bls.....lb. .12 - .14
Dragon's blood, drops, cs.....lb. .45 - .47
mass, cs.....lb. 1.50 - 1.55
reeds, cs..... No stocks

Dyes, coaltar, certified colors for foods, drugs and cosmetics, 1-lb. lots:—
Blue, FD&C, No. 1, cns.....lb.14.85 - —
No. 2, cns.....lb.14.85 - —
Green, FD&C, No. 1, cns.....lb.14.85 - —
No. 2, cns.....lb.19.25 - —
No. 3, cns.....lb.30.25 - —
Orange, FD&C, No. 1, cns.....lb. 3.20 - —
No. 2, cns.....lb. 4.00 - —

Dyes, coaltar, certified colors for foods, drugs and cosmetics, 1-lb. lots:—
Red, FD&C, No. 1, cns.....lb. 6.60 - —
No. 2, cns.....lb. 3.45 - —
No. 3, cns.....lb.19.25 - —
No. 4, cns.....lb. 6.35 - —
No. 32, cns.....lb. 4.55 - —
Yellow, FD&C, No. 1, cns.....lb. 9.35 - —
No. 3, cns.....lb. 2.90 - —
No. 4, cns.....lb. 2.90 - —
No. 5, cns.....lb. 3.45 - —
No. 6, cns.....lb. 3.45 - —

Dyes, coaltar, certified colors for drugs and cosmetics, 1-lb. lots:—
Black, D&C, No. 1, cns.....lb. 9.15 - —
Blue, D&C, No. 4, cns.....lb.13.55 - —
Brown, D&C, No. 1, cns.....lb.13.55 - —
Green, D&C, No. 5, cns.....lb.13.55 - —
No. 6, cns.....lb.13.55 - —
Orange, D&C, No. 8, cns.....lb. 9.15 - —
No. 4, cns.....lb.16.85 - —
No. 5, cns.....lb. 4.75 - —
No. 10, cns.....lb.17.40 - —
Red, D&C, No. 8, cns.....lb. 3.10 - —
No. 9, cns.....lb. 3.10 - —
No. 10, cns.....lb. 3.50 - —
No. 11, cns.....lb. 1.85 - —
No. 12, cns.....lb. 2.50 - —
No. 17, cns.....lb. 9.15 - —
No. 18, cns.....lb.20.15 - —
No. 19, cns.....lb.16.85 - —
No. 21, cns.....lb. 3.95 - —
No. 22, cns.....lb. 9.15 - —
No. 28, cns.....lb.20.70 - —
No. 33, cns.....lb.14.65 - —
Violet, D&C, No. 1, cns.....lb.13.55 - —
No. 2, cns.....lb.13.55 - —

Dyes, coaltar, certified colors for drugs and cosmetics, 1-lb. lots:—
Yellow, D&C, No. 7, cns.....lb. 9.15 - —
No. 8, cns.....lb. 9.15 - —
No. 10, cns.....lb.11.35 - —
No. 11, cns.....lb.11.35 - —
No. 19, cns.....lb.16.85 - —
No. 22, cns.....lb. 9.15 - —
No. 33, cns.....lb.14.65 - —
No. 37, cns.....lb.13.55 - —

Dyes, coaltar, certified colors for external use drugs and cosmetics, 1-lb. lots:—
Blue, Ext. D&C, No. 1, cns.....lb.13.55 - —
Green, Ext. D&C, No. 1, cns.....lb.13.55 - —
Red, Ext. D&C, No. 1, cns.....lb.11.35 - —
No. 3, cns.....lb.24.00 - —
Yellow, Ext. D&C, No. 1, cns.....lb. 9.15 - —

Dyes, oil-soluble, 100-lb. dms., sellers' works or warehouse.
Black, blue, No. 550.....lb. .61 - —
Jet, No. 551 .....lb. .66 - —
Brown, R, conc.....lb. 1.04 - —
Orange R, brilliant.....lb. .67 - —
Red, 4 B, conc.....lb. 1.03 - —
Yellow, C .....lb. .88 - —
FN, conc. .....lb. .91 - —

Dyes, spirit-soluble, same basis.
Auramine, O .....lb. 1.54 - —
Black, basic, blue.....lb. .91 - —
Jet .....lb. .91 - —
Blue, methylene, 2 B, conc....lb. 1.21 - —
Brown, Bismarck, R, conc....lb. .61 - —
Chrysodine, R, extra.....lb. .44½- —
Y, extra .....lb. .48 - —
Fuchsine, conc. .....lb. 2.63 - —
Green, Malachite, conc.....lb. 1.64 - —
Rhodamine, B .....lb. 4.37 - —
Safranine, Y, conc.....lb. 2.19 - —
Violet, methyl, B.....lb. .87 - —

Dyes, water-soluble, same basis.
Black, acid blue, B, extra.....lb. .61 - —
Orange, acid, Y, conc.....lb. .66 - —
Rhodamine, azo-, R, extra, conc. lb. .79 - —
Scarlet, croceine, MOO.....lb. 1.12 - —
Yellow, azo-, conc. .....lb. .81 - —
Fast light, 3 G, extra.....lb. 1.09 - —
Methanil, conc.....lb. .70 - —

Oil-soluble, spirit-soluble, water-soluble dyes in kegs, 3c. higher; tins, 10c. higher.

E

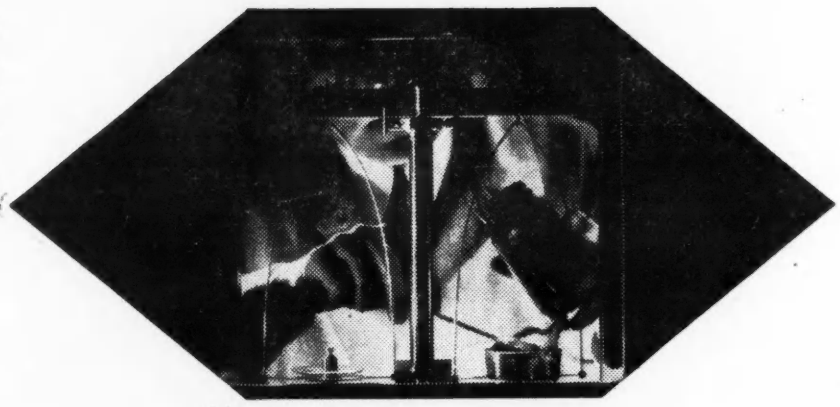
Echinacea root, bls. .....lb. .65 - .70
Egg albumen (see Albumen).
Yolk, dried, dom., bbls.....lb. 1.20 - 1.25
tanners, bbls. .....lb. .05½- .07
Elder flowers, bright, bls.....lb. .65 - .66
Elecampane root, bls. .....lb. .35 - .40
Elm bark, grinding, bls.....lb. .35 - .36
powd., bbls., bxs.....lb. .45 - .50
select, bndls. .....lb. .55 - .56
Emetine hydrochloride, bots. .....oz.53.50 -54.00
Ephedra herb, bls. .....lb. .20 - .21
Ephedrine, synthetic, USP, anhydrous, bots., 100 ozs..oz. .84 - —
hydrous, bots., 100 ozs.....oz. .76 - —
Hydrochloride, tin, 100 ozs.....oz. .60 - —
Sulphate, cryst., tins, 100 ozs..oz. .57 - —
powd., tins, 100 ozs.....oz. .58 - —
Epichlorohydrin, dms., c.l., works, lb. .46 - —
l.c.l., works .....lb. .46½- —
tanks, works .....lb. .44½- —
Epinephrine, synth., USP, bots..gram. .60 - .70
Epsom salt, tech., cryst., bgs., c.l., 100 lbs. 2.05 - —
l.c.l. .....100 lbs. 2.40 - 2.65
USP, cryst., bgs., c.l.....100 lbs. 2.25 - —
l.c.l., 5,000 lbs., 1 withdrawal, 100 lbs. 2.50 - —
smaller lots .....100 lbs. 2.75 - —
bbls., c.l. .....100 lbs. 2.35 - —
l.c.l., 5,000 lbs., 1 withdrawal, 100 lbs. 2.60 - —
smaller lots .....100 lbs. 2.85 - —
kgs., c.l. .....100 lbs. 2.60 - —
l.c.l., 5,000 lbs., 1 withdrawal, 100 lbs. 2.85 - —
smaller lots .....100 lbs. 3.10 - —

Epsom salt prices freight equalized: Balto., Carteret, N. J.; Chicago, Cincinnati, Cleveland, Midland, Mich.

Ergot, USP, cns.....lb. 1.25 - 1.30
Eserine, bots.....oz. No prices
Sulphate, bots.....oz.60.00 -61.00
Ether, acetic (see Ethyl acetate).
Amyl, dms., c.l., works.....lb. .095 - —
l.c.l., works.....lb. .102 - —
tanks, works.....lb. .085 - —
Butyl, dms., l.c.l., divd.....lb. .31 - —
Butyric (see Ethyl butyrate).
Dichloroethyl, purif., dms., works, frt. equald..lb. .13½- —
l.c.l., same basis.....lb. .14 - —
tanks, same basis.....lb. .12½- —
Ethyl (see Ether, sulphuric).
Isopropyl, dms., c.l., divd.....lb. .06 - —
l.c.l., divd.....lb. .06¼- —
tanks, divd.....lb. .04½- —
Nitrous, conc., bots., 100 lbs.....lb. .98 - 1.10
Sulphuric, conc., dms.....lb. .18 - .23
USP, anesthesia, hospital, cns..lb. .61 - .75
synthetic, dms., c.l., frt. alld..lb. .18 - —
l.c.l., same basis.....lb. .19 - —
tanks, same basis.....lb. .16 - —
Ethyl acetate, natural, fermentation, 85-88%, dms., c.l., frt. alld..lb. .19½- —
l.c.l., frt. alld.....lb. .20½- —
tanks, frt. alld.....lb. .18 - —
95-98%, dms., c.l., frt. alld..lb. .20 - —
l.c.l., frt. alld.....lb. .21 - —
tanks, frt. alld.....lb. .18½- —
99%, dms., c.l., frt. alld....lb. .20¼- —
l.c.l., frt. alld.....lb. .21¼- —
tanks, frt. alld.....lb. .18¾- —
NF, dms.....lb. .30 - —
synthetic, 85-90%, dms., c.l., frt. alld..lb. .13½- —
l.c.l., frt. alld.....lb. .14 - —
tanks, frt. alld.....lb. .12 - —
95-98%, dms., c.l., frt. alld....lb. .13¾- —
l.c.l., frt. alld.....lb. .14¼- —
tanks, frt. alld.....lb. .12¼- —
Acetoacetate, dms., c.l., works....lb. .55½- —
l.c.l., frt. alld.....lb. .56½- —
Benzoate, bots.....lb. .60½- .66
Betaethoxypropionate, dms., works, lb. .70 - —
Bromide, tech., 98%, dms.....lb. .36 - .40
Butyrate, bots.....gal. 5.50 - —
cns., works.....lb. .65 - .70
dms., works.....lb. .60 - —
Carbamate, dms., dlvd. E.....lb. .58 - —
Chloride, tech., tanks.....lb. .13½- —
USP, bbls., cyl.....lb. .20 - .22
Cinnamate, cns.....lb. 2.35 - 3.25
Formate, dms. .....lb. No stocks
Iodide, bots.....lb. 3.50 - 3.60
Lactate, dms., works.....lb. .38½- —
Methycrylate, M-2, dms., works..lb. .60 - —
cns., works.....lb. .63 - .67
P-2, cns., works.....lb. .65 - —
Myristate, dms., works.....lb. No prices
Oenanthate, dms.....lb. 2.60 - 3.25
Oleate, dms., l.c.l., works.....lb. .47 - —
Oxalate, dms., frt. alld.....lb. .33 - —
Silicate, dist. (see Tetraethyl orthosilicate).
40% available SiO_2, dms., works, lb. .50 - —
Ethylalphanaphthylamine, bbls.....lb. .75 - —
Ethylanilin, dms.....lb. .60 - —
Ethylcellulose fib, dms., 5,000 lbs., works..lb. .52 - —
smaller lots, works.....lb. .54 - .62
Ethyldiethanolamine, dms., l.c.l., works lb. .80 - —
Ethylene dichloride, dms., c.l., works, frt. alld. E. of Rockies..lb. .08½- —
West of Rockies.....lb. .09 - —
l.c.l., works, frt. alld. E. of Rockies..lb. .09¼- —
West of Rockies.....lb. .10 - —
smaller containers .....lb. .12½- —
tanks, frt. alld. E. Rockies....lb. .07 - —
West of Rockies.....lb. .07½- —
Oxide, dms., c.l., works.....lb. .20 - —
l.c.l., works .....lb. .21 - —
tanks, works .....lb. .15 - —
Trichloride (see Trichloroethane).
Ethylenediamine, tanks, works....lb. .50 - —
Ethyleneglycol, dms., c.l., frt. alld. E..lb. .13½- —
l.c.l., same basis.....lb. .14½- —
tanks, same basis.....lb. .12 - —
Monobutylether, dms., c.l., works..lb. .21 - —
l.c.l., works .....lb. .22 - —
tanks, works .....lb. .20 - —
Monoethylether, dms., c.l., works..lb. .17 - —
l.c.l., works .....lb. .18 - —
tanks, works .....lb. .16 - —
Monoethylether acetate, dms., c.l., works..lb. .15 - —
l.c.l., works .....lb. .16 - —
tanks, works .....lb. .14 - —

Monsanto pharmaceuticals

Saccharin, U.S.P.
Benzyl Benzoate, U.S.P.
Glycerophosphates
Sodium Benzoate, U.S.P.
Caffeine, U.S.P.
Sodium Phosphate, Di
Methyl Salicylate, U.S.P.
Chloral Hydrate, U.S.P.
Phenol, U.S.P.
Benzoic Acid, U.S.P.
Acetanilid, U.S.P.
Ferric Phosphates
Salol (Phenyl Salicylate)
Magnesium Phosphates
Salicylic Acid, U.S.P.
Phenolphthalein, U.S.P.
Chloramine-T
Phosphoric Acid
Calcium Phosphate, Di
Acetophenetidin, U.S.P.
Potassium Ammonium Phosphate
Sodium Salicylate, U.S.P.
Sulfanilamide, U.S.P.
Acetyl Salicylic Acid, U.S.P. (Aspirin)



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Ethyleneglycol monomethylether, dms., c.l., works lb. .18 - —
l.c.l., works lb. .19 - —
tanks, works lb. .17 - —
Monomethylether acetate, dms., c.l., works lb. .23 - —
l.c.l., works lb. .24 - —
tanks lb. .22 - —
Ethylethanolamine, dms., c.l., wrks. lb. .57 - —
l.c.l., works lb. .60 - —
Ethylmonoethanolamine, l.c.l., dms., works lb. .80 - —
Ethylmorphine, hydrochloride, bots. oz. 11.85 - —
Ethylorthotoluidine, bbls. lb. .80 - —
Ethylvanillin, cns., 5 lbs. or more lb. 6.75 - —
smaller lots lb. 6.80 - 6.90
Eucalyptol, USP, cns., dms. lb. 2.60 - 4.00
Eucalyptus leaves, bls. lb. .14 - .15
Eugenol, prime USP XII lb. 2.35 - 3.25
Euphorbia herb, bls. lb. .18 - .19

F

Feldspar, enamel, 100 mesh bgs., works. ton. 17.00 -20.50
bulk, c.l., works ton. 14.00 -17.50
Glass, 20 mesh, bgs., tons, works. ton. 12.75 -16.25
bulk, c.l. ton. 9.75 -12.25
Pottery, bgs., l.c.l., 2 tons, works. ton. 20.00 -22.00
bulk, c.l., works ton. 17.00 -19.00
Fennel seed, Argentine, bgs., futures, lb. .07 - .07½
Indian, bgs., afloat lb. .15 - .15½
Fenugreek, domestic, bgs. lb. .10 - .10½
Indian, bgs. lb. .09½- .10
futures, bgs. lb. .09 - .09½
Ferric sulphate (see Iron sulphate, ferric).
Film scrap, colored, cs., works lb. .14½- —
water-white, cs., works lb. .15½- —
Fir balsam, Canada, cns. gal. 24.00 -25.00
Oregon, bbls. gal. 2.45 - 2.65
Fishberries, bgs. lb. .24 - .25
Fishliver oils (see Oil, fishliver).
Fishmeal, grd., 60% protein, bgs., Balto. area ton. 145.00 - —
65% protein, bgs., Balto. area ton. 155.00 - —
Fishscrap, dried, 60% protein, bulk, Balto. area ton. 125.00 Nom.
Fleaseed, black, bgs. lb. .45 - .46
blonde, bgs. lb. .26 - .27
Husks, bgs. lb. .66 - .67
Fluorspar, No. 1, ground 96-98% CaF_2, bulk, c.l., mines net ton. 37.00 - —
washed gravel, 70% or more, CaF_2, bulk, c.l., mines ton. 33.00 - —
65%, bulk, c.l., mines ton. 32.00 - —
60%, bulk, c.l., mines ton. 31.00 - —
less than 60%, bulk, c.l., mines ton. 30.00 - —
Formaldehyde, bbls., c.l., works lb. .0645- .0695
l.c.l., works lb. .0695- .0745
dms., extra, c.l., works lb. .0545- .0595
l.c.l., works lb. .0595- .0645
tanks, works lb. .0370- .0420
tanktrucks, dlvd. N.Y.C. lb. .0395- .0445
Fringetree bark, bls. lb. .65 - .66
Fuller's earth, dom., powd., bgs., c.l., Fla., Ga. mines ton. 30.00 - —
Tex. mines ton. 27.00 - —
spent, bulk, Bayonne ton. 2.00 - 4.00
Imp., bgs., c.l. ton. 30.00 -40.00
Furfural, tech., dms., c.l., works lb. .13 - —
dms., cns., l.c.l., works lb. .15½- .20¼
tanks, works lb. .09½- —
Fusel oil, refined, dms., c.l. lb. .29½- —
l.c.l. lb. .30½- —
tanks lb. .28 - —
Fustic extract, cryst., No. 1, bbls., l.c.l. lb. .41 - —
No. 1A, bbls., l.c.l. lb. .40 - —
No. 2, bbls., l.c.l. lb. .39 - —
No. 3, bbls., l.c.l. lb. .37 - —
liquid, No. 0, bbls., l.c.l. lb. .21½- —
No. 1, bbls., l.c.l. lb. .20 - —
No. 2, bbls., l.c.l. lb. .19 - —
No. 3, bbls., l.c.l. lb. .16½- —
solid, No. 1, bxs, l.c.l. lb. .27 - —

G

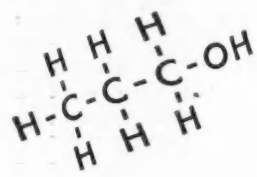
G salt, bbls. lb. .55 - —
Galangal root, bls. lb. .25 - .26
Gambier, plantation, bgs., ex dock lb. .21 - .23
Extract, bbls. lb. No stocks
Gammapicoline, 95%, dms., c.l., works. lb. 1.35 - —
Gasoline, at refinery, ex tax, Arkansas, 73-75 octane, tanks.. gal. .0925- —
Bayonne, 74 octane, tanks. gal. .093 - —
Gulf coast, 73-75 octane, tanks. gal. .0875- .093
Group 3, 73-75 octane, tanks. gal. .09 - .0925
Pennsylvania, western, U. S. motor, 74 octane, leaded tanks. gal. .0975- .103
natural, 26-70, octane group 3, tanks. gal. .06875- —
Gelatin, silver label, ctns., dlvd. lb. 1.25 - —
export, cs. lb. 1.35 - —
Gelatin price 5c. higher for deliveries in Ariz., Calif., Colo., Idaho, Mont., Nev., N. Mex., Ore., Tex., Utah, Wash., Wyo.
Gelsemium root, bls. lb. .35 - .40
Gentian root, bls. lb. .16 - .17
grd., bbls., bxs. lb. .21 - .22
powd., bbls., bxs. lb. .19 - .20
Geraniol, 92-96%, cns., dms. lb. 3.40 - —
prime lb. 2.75 - —
Geranyl acetate, cns. lb. 3.35 - 3.85
Ginger, oleoresin, bots. lb. 4.25 - 4.75
Root, African, No. 1, bls. lb. .13 - .13½
Cochin, bleached, bgs. lb. .16 - .16½
unbleached, bgs. lb. .15 - .15½
Jamaica, No. 1, bgs. lb. .18 Nom.
No. 2, bgs. lb. .17 Nom.
No. 3, bgs. lb. .15½ Nom.
Rhattoon, bgs. lb. .14 Nom.
Glauber's salt, anhyd. (see Soda sulphate).
cryst., bgs., works 100 lbs. 1.25 - 1.75
l.c.l., bgs., works 100 lbs. 1.75 - 2.10
Glue, bone, calcium type, 24 millipoise, 36 jellygrams, bgs., c.l., East of Midwest lb. .21 - .24
36/56, bgs., c.l., same basis lb. .22 - .26
58/82, bgs., c.l., same basis lb. .23 - .26
82/108, bgs., c.l., same basis lb. .25 - .27
Bone glue, l.c.l. prices, 1c. higher than c.l.
Hide, 100-121 (jelly test in grams), bgs., c.l., dlvd. lb. .20 - .25½
122-149, bgs., c.l., dlvd. lb. .21 - .25½
150-177, bgs., c.l., dlvd. lb. .22 - .27
178-206, bgs., c.l., dlvd. lb. .23 - .28
207-236, bgs., c.l., dlvd. lb. .24 - .29
237-266, bgs., c.l., dlvd. lb. .25 - .30
267-298, bgs., c.l., dlvd. lb. .26 - .31
299-330, bgs., c.l., dlvd. lb. .27 - .32
331-362, bgs., c.l., dlvd. lb. .28 - .33
363-394, bgs., c.l., dlvd. lb. .29 - .34
395-427, bgs., c.l., dlvd. lb. .30 - .35
428-460, bgs., c.l., dlvd. lb. .31 - .36
461-494, bgs., c.l., dlvd. lb. .32 - .37
495-529, bgs., c.l., dlvd. lb. .38 - .38
Hide glue l.c.l. prices 1c. higher than c.l.; bbls., ½c. more than bgs.

Glycerin, crude, saponification, 88% to refiners, tanks, dlvd. lb. .29 Nom.
soaplye, 80%, tanks, dlvd. lb. .28 Nom.
dynamite, dms., c.l., dlvd. lb. .39½- .40¼
l.c.l., dlvd. lb. .40 - .40¾
tanks, dlvd. lb. .39¼- .40
high gravity, dms., c.l. lb. .39½- .40¼
l.c.l. lb. .40 - .40¾
tanks lb. .39¼- .40
refined, BP, 98%, dms., c.l. lb. .39¾- .40½
tanks lb. .39½- .41¼
USP, 95%, dms., c.l. lb. .39½- .40¼
l.c.l. lb. .40 - .40¾
tanks lb. .39¼- .40
yellow, distilled, dms., c.l. lb. .39⅜- .40½
l.c.l. lb. .39⅞- .40⅝
Glycine USP (see Acid, aminoacetic).
Glycol boriborate, dms. lb. .22 - —
Stearate, dms. lb. .26 - —
Gold chloride, acid-brown, bots. oz. 20.00 -20.50
acid-yellow, bots. oz. 18.75 -19.00
Gold of pleasure seed, bgs., futures. lb. .30 - .31
Goldenseal root, bls. lb. 7.25 - 7.30
powd., bxs. lb. 7.75 - 7.80
Gold-sodium chloride, photo, bots. oz. 13.00 -13.50
USP IX, bots. oz. 14.00 -14.50
Grains of paradise, bgs. lb. .40 - .42
Graphite, imported, amorph., powd., bgs., dlvd. lb. .04 - .06
crystalline, 88-90%, powd., bgs., ex whse. lb. .14 - .16
90-92%, powd., bgs., ex whse. lb. .16 - .19
97%, powd., bgs., ex whse. lb. .22 - .25
flake, No. 1, 90-95%, bgs., ctns., ex whse. lb. .21 - .22
No. 2, bgs., ex whse. lb. .22 - .24

Ethyleneglycol Monomethylether—Guarana

Grease, house, loose lb. .21¼- .22¼
White, choice, loose lb. .24 - .25
Wool (see Degras and Lanolin).
Yellow, loose lb. .21½- .22½
Green, brilliant, thioflavin, toner, molybdic, kgs., works lb. 4.25 - 4.50
Tungstic, kgs., works lb. 4.25 - 4.50
Chrome, CP, dark, light, medium, blue content up to 5%, bbls., dlvd. N. of Tenn. and N.C. E. of Miss., including St. Paul, Minneapolis, Davenport, Rock Island, St. Louis lb. .32 - —
6-10%, bbls., same basis lb. .33 - —
11-15%, bbls., same basis lb. .34 - —
16-20%, bbls., same basis lb. .34½- —
21-25%, bbls., same basis lb. .35¼- —
26-30%, bbls., same basis lb. .35¾- —
31-35%, bbls., same basis lb. .35½- —
36-40%, bbls., same basis lb. .38½- —
41-45%, bbls., same basis lb. .40 - —
46-50%, bbls., same basis lb. .41¾- —
50% and over, bbls., same basis lb. .42¾- —
reduced color, 5%, bbls., same basis lb. .10 - —
6-10%, bbls., same basis lb. .10¾- —
11-13½, bbls., same basis lb. .11¼- —
14-16%, bbls., same basis lb. .12 - —
17-19%, bbls., same basis lb. .12¼- —
20-21%, bbls., same basis lb. .12½- —
22-23%, bbls., same basis lb. .12¾- —
24-25%, bbls., same basis lb. .13 - —
26-27%, bbls., same basis lb. .13½- —
28-29%, bbls., same basis lb. .14 - —
30-31%, bbls., same basis lb. .15 - —
32-33%, bbls., same basis lb. .16¼- —
34-35%, bbls., same basis lb. .17¼- —
Green, chrome, reduced color 36-40%, bbls., same basis lb. .20 - —
41-45%, bbls., same basis lb. .22¼- —
46-50%, bbls., same basis lb. .23¾- —
51-55%, bbls., same basis lb. .23½- —
56-60%, bbls., same basis lb. .24 - —
61-65%, bbls., same basis lb. .25 - —
66-70%, bbls., same basis lb. .26¼- —
Chrome green prices are ½c. higher dlvd Ala., Fla., Ga., La. (Shreveport, 1½c.), Miss., N. C., S. C., Tenn., Texas (Dallas, Ft. Worth, 1¼c.; El Paso, 2c.), Cedar Rapids, Des Moines, Kansas City, Lincoln, Omaha, St. Joseph; 1c. higher dlvd. Pac. coast; for Denver, Pueblo, Salt Lake City, Wichita, prices are equalized with Chicago.
Green, chromium, oxide, hydrated, bbls., works lb. .83 - —
pure, bgs., works lb. .30 - .33
Malachite, thioflavin toner, molybdic, bbls., works lb. 3.00 - —
Tungstic, bbls., works lb. 3.40 - —
Paris (see P).
Phthalocyanin toner, bbls., works, lb. 4.40 - 5.00
Tungstated, brilliant, kgs. lb. 3.00 - 4.00
Emerald, kgs. lb. 2.00 - —
Verdigris (see V).
Dyes (see Dyes, coaltar).
Grindelia robusta herb, bls. lb. .30 - .35
Guaiac resin, cs. lb. .48 - .49
Wood, bls. lb. .35 - .36
Guaiacol, cryst., NF, tins lb. 1.75 - —
liquid, NF, bots., cbys. lb. 1.80 - —
Carbonate, NF, dms. lb. 2.85 - —
Guarana, powd., cs. lb. 2.00 - 2.10

n-PROPYL ALCOHOL
IN VOLUME



Celanese production of n-propyl alcohol is now meeting large-scale continuous demands. This straight chain hydrocarbon—applicable to processes where its characteristic excellent solvent action and miscibility can be used to advantage—is available for shipment in drum or tank car amounts.

PHYSICAL PROPERTIES

MOLECULAR WEIGHT		60.06
COLOR		water white
ODOR		characteristic alcohol-like odor
SPECIFIC GRAVITY	20°/4° C	0.8036
DISTILLATION RANGE	ASTM	2° including true boiling point
WEIGHT PER GALLON	20° C	6.7 lbs.
SOLUBILITY		soluble in water and practically all organic solvents
FLASH POINT	open cup	85° F
BOILING POINT	1 atm.	97.2° C
FREEZING POINT		-127° C
VAPOR PRESSURE	100° F	0.9 lbs. per sq. in. absolute
RELATIVE EVAPORATION RATE		11. (ether = 1)

If you are looking for an improvement in your products, or short cuts in processing, the straight chain advantages of n-propyl alcohol are worth investigation. n-Propyl alcohol can be used also as a replacement for other alcohols now in critical supply. Call or write for additional information and specifications.

Celanese Chemical Corporation,
division of Celanese Corporation of America,
180 Madison Avenue, New York 16, N. Y.

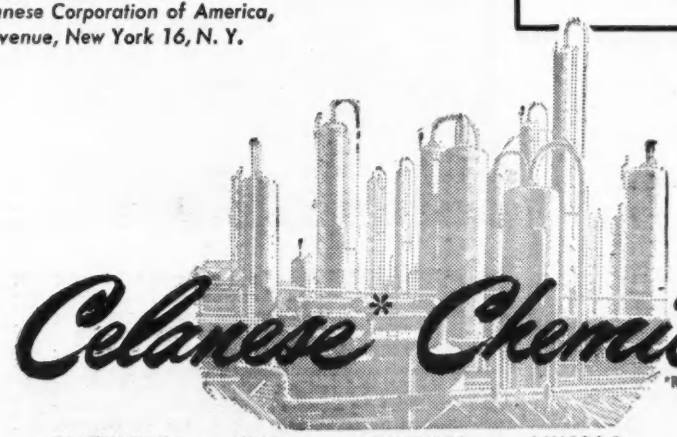
ALSO IN VOLUME

CELANESE*
ISO-PROPYL ALCOHOL

Expanded plant facilities and new engineering techniques now enable Celanese to announce the production of iso-propyl alcohol in commercial quantities.

This latest addition to the increasing line of Celanese* organic chemicals is another step in the progressive chemical program of Celanese Corporation of America.

As one of the pioneers in producing organic chemicals from petroleum, Celanese is in an advantageous position, through advanced research and the most modern production facilities, to meet the critical chemical needs of American industry.



Celanese* Chemicals

*Reg. U. S. Pat. Off.

ALDEHYDES • ALCOHOLS • ACIDS • SOLVENTS • GLYCOLS • KETONES • PLASTICIZERS

Gum, Accroides—Iron-Ammonium Oxalate

Gum, accroides (see Gum, yacca).
Aloe (see A.)
Ammoniac, tears, cs. lb. .90 - .95
Arabic, amber, sorts, bgs. lb. .14½- .15
white, sorts, 1, bgs. lb. .28 - .30
powdered, USP, bbls. lb. .20½- .21
Asafetida (see A).
Asphalthum (see A).
Benzoin, Sumatra, cs. lb. .50 - .55
Camphor (see C).
Copal, Congo, No. 1, bgs. lb. .26 - .28
No. 2, bgs. lb. .22 - .24
No. 3, bgs. lb. .20 - .22
Macassar DBB, bgs. lb. .24 - .25
MA, bgs. lb. .24 - .25
lobu C, bgs. lb. .27½- .29
Dammar, Batavia, AE, cs. lb. .27 - .29
E, cs. lb. .18½- .20½
Singapore, No. 1, cs. lb. .27½- .29½
No. 2, cs. lb. .24 - .26
East India, black, bold, bgs. lb. .14½- .16
batu, bold, bgs. lb. .11 - .12½
Elemi, cns. lb. .27 - .29
Ester, gum-rosin type, dms., c.l., dlvd. Ill., Ind., Ky., Mich., Mid-Atl. States, N. E. States, Minneapolis, N. C., Ohio, St. Louis, St. Paul, Va., W. Va. lb. .16¾- —
wood-rosin type, dms., any quantity, dlvd., Ill., Ind., etc. lb. .16¾- —
Euphorbium, cs. lb. 1.50 Nom.
Galbanum, cs. lb. .85 - .90
Gamboge, pipe, cs. lb. 1.70 - 2.00
powd., bbls. lb. 1.95 - 2.25
Ghattl, No. 2, bgs. lb. .35 - .37
No. 3, bgs. lb. .31 - .33
Guaiac (see Guaiac resin).
Karaya, No. 1 lb. .46 - .51
No. 2 lb. .38 - .43
No. 3 lb. .33 - .36
No. 4 lb. .28 - .31
No. 5 lb. .23 - .27
No. 6 lb. .20 - .22
Kauri, bgs. lb. .31 - —
Locust bean, powd., bgs. lb. .42 - .48
Mastic, cs. lb. 3.50 - —
Myrrh, cs. lb. .45 - .46
Olibanum, siftings, cs. lb. .12 - .13
tears, cs. lb. .22 - .38
Opium (see O).
Red (see Gum yacca).
Rosin (see R).
Sandarac, cks. lb. .95 - 1.00
Scammony, cs. lb. 1.50 - 1.55
Sterculia (see Gum, karaya).
Talha, bgs. lb. .10 - .11
Tragacanth, No. 1, cs. lb. 8.60 - 8.70
No. 2, cs. lb. 3.20 - 3.25
No. 3, cs. lb. 2.25 - 2.50
powdered, USP, bbls. lb. 1.35 - 1.45
Yacca, bgs. lb. .06 - .07
Gypsum, Keane's cement, paper bgs., c.l., Acme, Tex., frt. equald. ton. 22.65 - —
Harlem river, N. Y., frt. equald. ton. 28.25 - —
Medicine Lodge, Kans., frt. equald. ton. 17.00 - —
New Brighton, N. Y., frt. equald. ton. 30.65 - —
Southard, Okla., frt. equald. ton. 17.00 - —
Sweetwater, Tex., frt. equald. ton. 21.45 - —
Plaster of paris, paper bgs., c.l., Acme, Texas, frt. equald. ton. 12.50 - —
Blue Rapids, Kans., frt. equald. ton. 30.50 - —
Harlem river, N. Y., frt. equald. ton. 12.00 - —
Medicine Lodge, Kan., frt. equald. ton. 12.50 - —
New Brighton, N. Y., frt. equald. ton. 18.00 - —
Southard, Okla., frt. equald. ton. 12.50 - —
Sweetwater, Tex., frt. equald. ton. 12.50 - —
Stucco, paper bgs., c.l., Acme, Texas, frt. equald. ton. 8.00 - —
Akron, N. Y., frt. equald. ton. 8.00 - —
Blue Rapids, Kans., frt. equald. ton. 8.00 - —
Clarence Center, N. Y., frt. equald. ton. 8.00 - —
Fort Dodge, Iowa, frt. equald. ton. 8.00 - —
Grand Rapids, Mich., frt. equald. ton. 8.00 - —
Gypsum, Ohio, frt. equald. ton. 8.00 - —
Harlem river, N. Y., frt. equald. ton. 8.00 - —
National City, Mich., frt. equald. ton. 8.00 - —
New Brighton, N. Y., frt. equald. ton. 8.00 - —
Plasterco, Ga., frt. equald. ton. 8.00 - —
Portsmouth, N. H., frt. equald. ton. 8.00 - —
Roton, Texas, frt. equald. ton. 8.00 - —
Saltville, Va., frt. equald. ton. 9.00 - —
Southard, Okla., frt. equald. ton. 8.00 - —
Sweetwater, Texas, frt. equald. ton. 8.00 - —
Terra alba, paper bgs., c.l., Harlem river, N. Y.; works. ton. 22.50 - —
New Brighton, N. Y., works. ton. 21.00 - —

H

Hawthorn berries, bg. lb. .57 - .58
Heliotropin, cryst., cns. lb. 2.95 - 4.00
Hellebore, white, powd., bbls. lb. .70 - .71
Helonias root, bls. lb. 2.20 - 2.25
Hematine extract, cryst., No. 0, bbls., l.c.l. lb. .44 - —
No. 1, bbls., l.c.l. lb. .43 - —
No. 1A, bbls., l.c.l. lb. .40 - —
No. 2, bbls., l.c.l. lb. .39 - —
No. 3, bbls., l.c.l. lb. .37 - —
No. 4, bbls., l.c.l. lb. .35 - —
No. 5, bbls., l.c.l. lb. .33 - —
paste, No. 1, bbls., l.c.l. lb. .18½- —
No. 2, bbls., l.c.l. lb. .17½- —
No. 3, bbls., l.c.l. lb. .16½- —
No. 4, (red), bbls., l.c.l. lb. .12 - —
Hemlock bark extract, 25% tannin, bbls., c.l., works. lb. No stocks
tanks, works lb. No stocks
Henbane leaves, bls. lb. 1.00 - 1.25
Henna leaves, bls. lb. .25 - .28
powd., bbls., bxs. lb. .34 - .36
Heptane, industrial, 90°-100° C., dms., c.l., group 3. gal. .13½- .16
l.c.l., group 3 gal. .19 - .35
tanks, group 3 gal. .10¼- .10¼
97°-115° C., dms., c.l., group 3. gal. .13½- .17
l.c.l., group 3 gal. .19 - .35
tanks, group 3 gal. .10½- .11
laboratory, dms., c.l., group 3. gal. 16 - —
l.c.l., group 3 gal. .29 - .55
Hexalin (see Cyclohexanol).
Hexaethyl tetraphosphate, cns., works, lb. 1.25 - —
dms., c.l., works lb. .80 - —
l.c.l., works. lb. .90 - 1.00
Hexamethylene-tetramine, tech., bbls., 1,000-lb. lots, Perth Amboy or N.Y.C. lb. .28 - —
smaller lots, same basis lb. .29 - —
USP, dms., 500 lbs. or more, same basis. lb. .35 - —
smaller lots, same basis lb. .36 - —

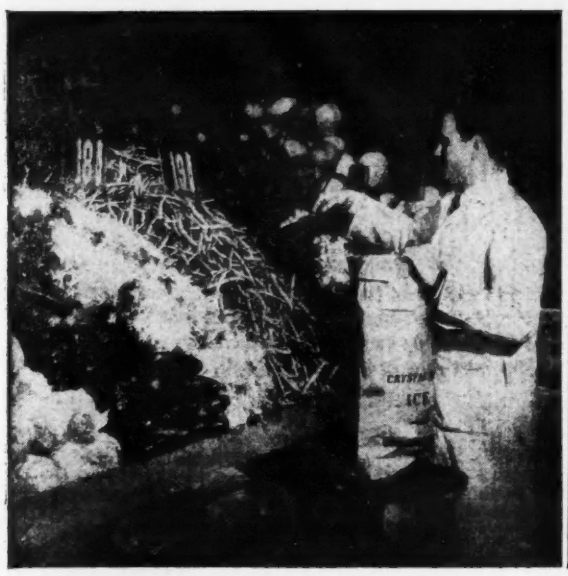
Hexane, industrial, 60°-70° C., dms., c.l., group 3. gal. .14¼- .17
l.c.l., group 3 gal. .19 - .35
tanks, group 3 gal. .11 - .12
laboratory, dms., c.l., group 3. gal. .16 - —
l.c.l., group 3 gal. .29 - .55
Hexanol, normal, dms., l.c.l., works. lb. .35 - —
Homatropine, hydrobromide, bots. oz. 15.00 -25.00
Hydrochloride, bots. oz. 20.00 -22.00
Hoofmeal, 17-18% ammonia bulk, c.l., Chicago. unit-ton. 8.50 - —
Hops, NF, bls. lb. .35 - 1.30
Horehound, bls. lb. .12 - .13
Hydrangea, root, bls. lb. .22 - .25
Hydrastine, bots. oz. 20.00 -22.00
Sulphate, bots. oz. 29.00 -32.00
Hydrastinine, 10-grain bots. bot. 1.95 - —
Hydrastis (see Goldenseal).
Hydrofuramide dms., fib. cns., works, lb. .30 - .40
Hydrogen peroxide, USP, bbls. lb. .03¾- .05
100 vols., cbys., E. of Miss. or West coast via Panama Canal. lb. .15½- .18½
Hydroquinone, bbls., dms. lb. .90 - .94
Hydroxycitronellal, cns. lb. 6.50 - 7.50
Hyoscine hydrobromide, bots. oz. 39.00 -45.00
Hyoscyamine, bots. oz. 18.00 -20.00
Hydrobromide, bots. oz. 18.00 -19.50
Sulphate, bots. oz. 14.00 -19.50
Hypernic extract, cryst., No. 1, bbls., l.c.l. lb. .51 - —
No. 2, bbls., l.c.l. lb. .43 - —
liquid, No. 1, bbls., l.c.l. lb. .28 - —
No. 2, bbls., l.c.l. lb. .23 - —
solid, No. 1, bxs., l.c.l. lb. .40 - —
Hyssop herb, bgs. lb. .50 - .55
Leaves, bgs. lb. .55 - .60

I

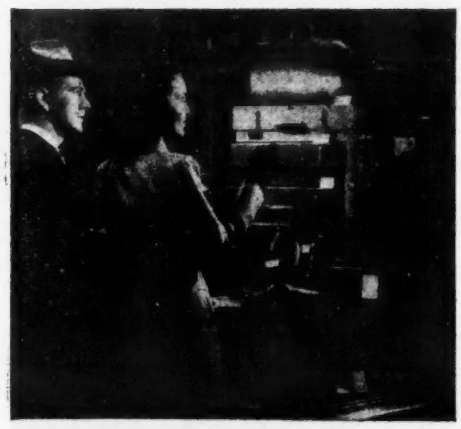
Iceland moss, bgs. lb. .50 - .52
Ichthammol, NF, bots. lb. 2.45 - —
Indian red (see Red, Indian).
Indigo, nat., chests. lb. 2.14 - 2.80
synth., paste, bots. lb. .16½- .19
powd., bbls. lb. .74½- .85
Indol, CP, bots. lb. 18.50 -23.00
Inositol, tins, dlvd. lb. 5.00 - —
Insect flowers (see Pyrethrum).
Iodine, crude, kgs., ex whse., Staten Island. lb. 1.729 - —
resubl., bots., jars. lb. 2.35 - 2.65
Iodoform, dms., kgs. lb. 4.45 - —
Ionone ketone, alpha, cns. lb. 12.30 -16.40
beta, cns. lb. 9.00 -12.50
pure, cns. lb. 5.65 - 7.95
Methyl (see M).
IPC, bots., 1-5 lbs. lb. 2.68 - 2.72
fib. dms., 100 lbs., ship't. point. lb. 2.30 - 2.50
60 lbs., ship't point. lb. 2.40 - 2.52
10-25 lbs., ship't point. lb. 2.50 - 2.54
Ipecac root, bgs. lb. 5.25 - 5.30
powd., bgs. lb. 5.45 - 5.50
Irish moss, bleached, prime, bls. lb. .20 - .21
Iron acetate, liquor, 28°, bbls., c.l., works. lb. .09 - —
l.c.l., works. lb. .09¾- —
solut., USP IX, cbys. lb. .17 - —
djns. lb. .18 - —

Iron chloride (ferric), anhydr., tech., dms., c.l., works. 100 lbs. 4.90 - 5.25
l.c.l., works. 100 lbs. 6.50 - 6.85
cryst., tech., bbls., works, frt. alld. 100 lbs. 4.00 - 6.00
USP X, lump, bbls. lb. .07 - .08¼
solut., 42 Be, cbys., works, frt. alld. or equald. lb. .05½- .06
djns., same basis. lb. .10 - —
Citrate, gran., dms. lb. .77 - .79
Glycerophosphate, N.F., powd. lb. 4.35 - —
Hypophosphite, bbls., dms. lb. 1.50 - 1.52
Iodide, bots. lb. 3.48 - 3.63
Naphthenate, 6% Fe, dms. lb. .19½- —
Nitrate, red, tech., dms. lb. .03½- .04
Oxalate, gran., dms. lb. .83 - .88
Phosphate, soluble, NF, gran., cs. lb. .64 - .65
Pyrophosphate, soluble, NF VII, gran., dms. lb. .69 - .72
Reduced, 90%, kgs. lb. .65 - .75
Resinate, 7.4%, Fe, dms. lb. .22 - —
Stearate, dms., c.l. lb. .46 - —
ton lots lb. .47 - —
less ton lots lb. .48 - —
Sulphate (ferric), anhyd, bgs., c.l., works. ton. 35.00 - —
l.c.l., works. ton. 40.00 - —
partially hydrated, bgs., c.l., works. ton. 26.50 - —
(ferrous), tech, (see Copperas).
USP, cryst., bbls., dms. lb. .06 - .08
Iron-ammonium citrate, brown, green, gran., dms. lb. .45 - .46
Oxalate, bbls. lb. .23½- —
dms., bgs. lb. .25½- .26¼

Life...on the



Photographs courtesy Union Bag & Paper Corp.



LEATHER GOODS of many types attain new heights of attractiveness and serviceability when made of hides treated with Cyanamid leather processing chemicals. Outstanding among these is Cyanamid's new TANAK* MRX Synthetic Tanning Material for tanning leathers which are white throughout, making the leather extremely full and mellow. The new material is used also for bleaching chrome leather for whites, and for combination tannages. Full information on this and other Cyanamid leather processing chemicals is available.

NOW IT'S ICE IN PAPER BAGS FOR HOME AND COMMERCIAL USE

DURABLE SANITARY "ONE-TRIP" PAPER BAGS for economical packaging and delivery are an important new application for paper given extraordinary wet and dry strength with Cyanamid's PAREZ† Resin 607. The new bags offer many advantages to processed-ice users ranging from housewives and home "party-throwers" to hotels, restaurants, clubs, railroad dining cars and food stores.

Thanks to the new bags, processed ice becomes easy to purchase and handle. Spillage and leakage are eliminated. Tightly closed at the mouth, the bags keep the ice clean and sanitary. The insulating qualities of the paper make the ice "keep" longer. And there are no containers to be kept track of and returned. Small wonder the new bags are a nationwide "hit" with the public, with ice companies.

How does PAREZ Resin 607 enable paper to stand up to such an unusual job? The answer is simple. Added to the paper stock during the manufacturing process, this remarkable resin binds the fibers together with a bond insoluble in water and most other liquids. Thus imparted are exceptional wet and dry strength, improved tensile and bursting strength, and added folding resistance. Dry or soaking wet, such papers remain strong and difficult to tear.

Typical and ever-widening uses of papers given these qualities with PAREZ Resin 607 range from disposable laundry tags and tear-resistant photographic papers to rugged shipping crate liners . . . from unusually durable bag, sack, twisting and wrapping papers to such decorative and utilitarian household items as draperies, tablecloths and napkins, towels, wall papers and dusting "cloths." Cyanamid's paper chemical technicians will gladly advise as to use of this remarkable resin.

†Trade-mark of American Cyanamid Company covering its synthetic resins for use by the paper industry. The processes under which PAREZ is applied in the production of wet strength paper are covered by U. S. Patents Nos. 2,291,079, 2,291,080 and 2,345,543 and U. S. Patent Application Serial No. 453,032.

Iron-sodium oxalate, fine gran., bbls., dms.	lb.	.23½- .26½
Isobornyl acetate, cns.	lb.	.97 - 1.10
Thiocyanoacetate, dms., c.l., works,	gal.	4.35 - —
l.c.l., works	gal.	4.45 - 4.55
tanks, works	gal.	4.23 - —
Isobutyl acetate, cns.	lb.	.97 - 1.10
Methacrylate, M-5, dms., works.	lb.	.60 - —
cns., works	lb.	.63 - .67
P-5, cns., works	lb.	.60 - —
Propionate, cns.	lb.	No prices.
Isobutyraldehyde, dms., works	lb.	.33 - .36
Isoeugenol, extra, cns.	lb.	3.25 - 4.00
cbys., extra	lb.	3.25 - —
Isopentane, dms., works	lb.	.45 - .55
Isophorone, dms., c.l., works	lb.	.21 - —
l.c.l., works	lb.	.22 - —
tanks, works	lb.	.20 - —
Isopropanol (see Alcohol, isopropyl).		
Isopropyl acetate, dms., c.l., frt. alld., E. of Rockies	lb.	.1160- .1250
l.c.l., same basis	lb.	.1210- .1300
tanks, same basis	lb.	.1100- .1160
Alcohol (see Alcohol, isopropyl).		
Ether (see Ether, isopropyl).		
Phenylcarbamate (see IPC).		
Isopropylamine, dms., works	lb.	.25 - —

J

Jaborandi leaves, bls.	lb.	.17 - .18
Jalap root, NF, bls.	lb.	.44 - .49
powd., bbls., bxs.	lb.	.50 - .55
Resin, lump, cns.	lb.	5.85 - —
powd., bxs.	lb.	5.90 - —
Juniper berries, bgs.	lb.	.12 - .20
Tar, USP, dms.	lb.	.50 - .92

K

Kamala, powd., cns.	lb.	.46 - .48
Kaolin (see China clay).		
Kava kava root, bls.	lb.	.35 - .40
Kerosene, at refinery: Ark., 42-44 w.w., tanks	gal.	.08125- —
Bayonne, 41-43, w.w., tanks	gal.	.09 - —
California, 40-43, w.w., tanks	gal.	.0830- .1003
Gulf ports, 41-43, w.w., tanks	gal.	.0725- .0775
Okla.-Tex., 41-43, w.w., tanks	gal.	.0785- .08125
Penn., 45 w.w., tanks	gal.	.0925- .0950
47 w.w., tanks	gal.	.095 - .10
Kola nuts, bgs.	lb.	.08 - .09
Kyanite, imp., low iron content, 10-mesh, whse.	ton.	85.00 -95.00
calcined, grain, 10-mesh, whse.	ton.	95.00 -105.00

L

Ladyslipper root, bls.	lb.	1.75 - 1.80
Lanolin, anhyd., cosmetic, dms., works.	lb.	.25 - —
USP, dms., works	lb.	.23 - —
hydrous, cosmetic, dms., works	lb.	.23½- —
USP, dms., works	lb.	.21½- —
Lard, cash, tres., Chicago	lb.	.24¾- .25
Larkspur seed, bgs.	lb.	.55 - .57
Laurel berries, bls.	lb.	.25 - .26
Leaves, Algerian, bls.	lb.	.13 - .13½
Cyprian, bls.	lb.	.11 - .11½
Greek, bls.	lb.	.11½- .12
Portuguese, choice, bls.	lb.	.10½- .11
ordinary, bls.	lb.	.10 - .10½
Turkish, choice, bls.	lb.	.17 - .17½
ordinary, bls.	lb.	.10½- .11
Lavender flowers, medium, bls.	lb.	.66 - —
ordinary, bls.	lb.	.31 - —
select, bls.	lb.	.75 - —
Lead acetate, white, broken, bbls.	lb.	.18½- —
cryst., bbls.	lb.	.19¼- —
gran., powd., bbls.	lb.	.19¼- —
Arsenate, basic, powder, 3-lb. bgs. or larger, c.l.	lb.	.21¾- —
l.c.l.	lb.	.22¾- .23¾
1-lb. bgs., c.l.	lb.	.29¼- —
l.c.l.	lb.	.30¼- .31¼
Lead arsenate prices are works or frt. alld. on 96 lbs. or more to dest.	whse. basis East.	
Blue, basic sulphate, bbls., c.l., ship't point, frt. alld.	lb.	.15¼- —
l.c.l., works	lb.	.15½- —
Carbonate (see Lead, white).		
Chloride, fib. dms.	lb.	.49 - —
Iodide, NF V, jars	lb.	2.90 - 3.06
Linoleate, solid, 13%, bbls.	lb.	.41¾- —
Metal, pigs, prime, N. Y.	lb.	.15 - —
E. St. Louis	lb.	.1480- .1485
Metallic paste, dms., 10,000-40,000 lbs., works.	lb.	.27½- —
2,000-10,000 lbs., same basis	lb.	.28½- —
up to 2,000 lbs., same basis.	lb.	.30 - —
Naphthenate, liquid, 21% Pb, dms.	lb.	.20½- —
30% Pb, dms.	lb.	.24¾- —
solid, 37% Pb, dms.	lb.	.27½- —
Nitrate, bbls., c.l.	lb.	.17¾- —
l.c.l.	lb.	.18 - —
Oleate, bbls.	lb.	.26¼- —
Peroxide, powd., tech., bbls.	lb.	.29 - .31
Red, 95% Pb_3O_4 or less, bbls., c.l., ship't point, frt. alld.	lb.	.1760- —
l.c.l., 5 tons, same basis	lb.	.1800- —
smaller lots, same basis.	lb.	.1850- .1860
Lead, red, 97% Pb_3O_4, bbls., c.l., same basis.	lb.	.1785- —
l.c.l., 5 tons, same basis.	lb.	.1825- —
smaller lots, same basis.	lb.	.1875- —
98% Pb_3O_4, bbls., c.l., same basis.	lb.	.1810- —
l.c.l., 5 tons, same basis.	lb.	.1850- —
smaller lots, same basis.	lb.	.1900- —
Resinate, precip., 23.8% Pb., dms.	lb.	.23 - —
Silicate, bgs.	lb.	.17 - .17¼
Soyate, 26.15% Pb., dms.	lb.	.33¾- —
Stearate, bbls., c.l.	lb.	.48 - —
ton lots	lb.	.49 - —
less ton lots	lb.	.50 - —
Sulphate (see Lead, blue; Lead, white, basic sulphate).		
Tallate, liquid, 16% Pb, dms.	lb.	.14 - —
solid, 30% Pb, dms.	lb.	.19 - —
White, basic carbonate, bbls., c.l., ship't point, frt. alld.	lb.	.15¾- .16
l.c.l., works	lb.	.16 - .16¼
basic sulphate, bbls., c.l., ship't point, frt. alld.	lb.	.15¼- —
l.c.l., works	lb.	.15½- —
Lecithin, edible, tech., bleached, dms., non-ret., c.l., works.	lb.	.28 - —
l.c.l., same basis	lb.	.26 - .31
unbleached, c.l., same basis.	lb.	.26 - —
l.c.l., same basis	lb.	.25 - .29
Lemon peel, bls.	lb.	.35 - .40
Licorice extract, mass, cns.	lb.	.40 - .42
powd., bbls.	lb.	.60 - .62
Root, bls.	lb.	.09 - .10
5-lb. bundles, cs.	lb.	.60 - .65
powd., bbls.	lb.	.14 - .15
Lignin extract, tanning grade, bgs., c.l., works.	lb.	.04¾- —
Lime, agricultural, bulk, works.	tons.	9.00 - 9.50
Chemical (quicklime), lump, pebble, bulk, Adams, Mass.	ton.	9.00 - —
Annville, Pa.	ton.	9.00 - —
Bellefonte, Pa.	ton.	9.00 - —
Berkeley, W. Va.	ton.	9.00 - —
Buffalo, N. Y.	ton.	10.75 - —
Carey, Ohio	ton.	7.00 - —
Cedar Hallow, Pa.	ton.	9.50 - —
Crab Orchard, Tenn.	ton.	8.50 - —
Eagle Mountain, Va.	ton.	8.50 - —
Farnams, Mass.	ton.	9.00 - —
Gibsonburg, Ohio	ton.	7.50 - —
Hannibal, Mo.	ton.	7.50 - —
Keystone, Ala.	ton.	8.50 - —
Knoxville, Tenn.	ton.	8.50 - —
Limedale, Ark.	ton.	8.00 - —
Longview, Ala.	ton.	8.50 - —
Mitchell, Ind.	ton.	7.50 - —
Newala, Ala.	ton.	8.50 - —
Manistique, Mich.	ton.	8.00 - —
Marblehead, Ohio.	ton.	8.50 - —
Martinsburg, W. Va.	ton.	9.00 - —
Menominee, Mich.	ton.	8.00 - —
Ripplemead, Va.	ton.	8.50 - —
Riverton, Va.	ton.	8.50 - —
Rockland, Maine	ton.	8.00 - —
Scioto, Ohio.	ton.	6.50 - —
Sherwood, Tenn.	ton.	8.39 - —
Sherwood, Wis.	ton.	8.50 - —
Springfield, Mo.	ton.	8.00 - —
Woodville, Ohio.	ton.	8.50 - —
York, Pa.	ton.	8.50 - —
hydrated, paper bgs., Adams, Mass.	ton.	11.25 - —
Annville, Pa.	ton.	11.50 - —
Bellefonte, Pa.	ton.	11.50 - —
Berkeley, W. Va.	ton.	10.00 - —
Buffalo, N. Y.	ton.	11.50 - —
Carey, Ohio	ton.	9.00 - —
Cedar Hollow, Pa.	ton.	11.50 - —
Crab Orchard, Tenn.	ton.	11.65 - —
Eagle Mountain, Va.	ton.	10.00 - —
Eagle, W. Va.	ton.	11.50 - —
Farnams, Mass.	ton.	11.00 - —
Gibsonburg, Ohio	ton.	9.50 - —
Hannibal, Mo.	ton.	9.50 - —
Keystone, Ala.	ton.	12.25 - —
Knoxville, Tenn.	ton.	11.00 - —
LeRoy, Minn.	ton.	10.00 - —
Limedale, Ark.	ton.	10.00 - —
Longview, Ala.	ton.	12.25 - —
Marblehead, Ohio.	ton.	10.50 - —
Mitchell, Ind.	ton.	10.00 - —
Manistique, Mich.	ton.	9.50 - —
Newala, Ala.	ton.	12.25 - —
Petoskey, Mich.	ton.	10.00 - —
Port Island, Mich.	ton.	9.00 - —
Rapid City, S. Dak.	ton.	12.00 - —
Ripplemead, Va.	ton.	10.00 - —
Rockland, Maine	ton.	9.00 - —
Scioto, Ohio.	ton.	8.00 - —
Sherwood, Tenn.	ton.	12.14 - —
Sherwood, Wis.	ton.	10.00 - —
Springfield, Mo.	ton.	9.00 - —
Woodville, Ohio.	ton.	8.50 - —
York, Pa.	ton.	11.50 - —
Spray, paper bgs., Adams, Mass.	ton.	11.70 - —
Annville, Pa.	ton.	11.50 - —
Bellefonte, Pa.	ton.	11.50 - —
Carey, Ohio.	ton.	11.00 - —
Engle, W. Va.	ton.	11.50 - —
Farnams, Mass.	ton.	9.50 - —
Gibsonburg, Ohio.	ton.	10.00 - —
Marblehead, Ohio.	ton.	10.00 - —
Rockland, Me.	ton.	10.00 - —
Scioto, Ohio.	ton.	10.00 - —
Woodville, Ohio.	ton.	10.00 - —
York, Pa.	ton.	11.50 - —
Lime salts (see Calcium).		
Lime-ammonia-nitrogen, 20.5% N (see Ammonium nitrate-limestone).		
Limestone, grd., bulk, works.	ton.	1.40 - —
Linalool, ex bois de rose.	lb.	5.10 - 6.85
ex lignaloe wood.	lb.	6.50 - 7.00
Linalyl acetate, ex bois de rose, bots.	lb.	4.35 - 7.20
ex lignaloe wood, bots.	lb.	8.25 - 8.40
ex petitgrain, bots.	lb.	5.10 - 6.35
Linden flowers with leaves, bls.	lb.	.35 - .36
without leaves, bls.	lb.	.35 - .36
Linseed meal, 34% bulk, Midwest mills.	ton.	84.00 - —
Litharge, com'l, powd., bbls., c.l., ship't point, frt. alld.	lb.	.1630- —
l.c.l., 5 tons, same basis.	lb.	.17 - —
smaller lots, same basis.	lb.	.1750- .1760
Lithium bromide, bbl., works, frt. equald.	lb.	1.90 - —
Carbonate, NF, bbls., kgs.	lb.	1.15 - —
Chloride, jars	lb.	1.15 - 1.65
Citrate, bbls., dms., kgs.	lb.	1.30 - 1.45
Fluoride, bbls.	lb.	1.90 - —
Hydroxide, jars	lb.	1.15 - 1.25
Lithopone, ordinary, bgs., c.l., ship't point.	lb.	.06 - —
l.c.l., same basis.	lb.	.06¼- —
bbls., c.l., same basis.	lb.	.06¼- —
l.c.l., same basis.	lb.	.06½- —
Titanated (high-strength), bgs., c.l.	lb.	.07¾- —
smaller lots	lb.	.08 - —
bbls., c.l.	lb.	.08 - —
smaller lots	lb.	.08¼- —
Lithopone Pac. Cst. prices ¾c. higher.		
Liverwort leaves, bls.	lb.	.70 - .75
Lobelia herb, bls.	lb.	.82 - .85
Lobeline sulphate, bots., works.	oz.	25.50 -38.00

Chemical Newsfront

PRESCRIPTION FOR MUD. The average motorist may not know it, but mud is one of the chief "tools" used in drilling for the petroleum that supplies his car with oil and gasoline. In this unusual photograph we see drilling mud bubbling up around the drill pipe at the mouth of a new well. The mud's job is to cool the drilling bit . . . bring cuttings to the surface . . . prevent cave-ins and blow-outs. To do all this efficiently at depths of a mile or two underground, drilling mud must be constantly regulated as to consistency and chemical make-up. This calls for special drilling mud chemicals, of which Cyanamid makes a complete range.

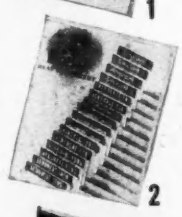
When harmful calcium and magnesium compounds are encountered underground, for instance, QUADRAFOS* (Sodium Tetraphosphate) Compound, sold by Cyanamid, is added to the drilling mud to make them inactive, and thus permit drilling to proceed at top speed. AEROFLO* Mud Conditioning Compound solves viscosity problems in deep wells and at high temperatures. And AEROTAN** Water-Loss Control Reagent controls water loss under the most extreme conditions, and is definitely superior for treatment of cement-contaminated muds. Capable field engineers are ready at all times to demonstrate how these chemicals can help cut costs and increase production.

FIVE IMPORTANT NEW CYANAMID PUBLICATIONS

One or more of these booklets may help you increase your production, reduce operational costs. Check the booklets that you want, and write Cyanamid. Your copies will be sent promptly and without charge.

☐ 1

FILT-R-STIL* Demineralizing Units deliver mineral-free water at an amazingly low fraction of the cost of distilled water. This new booklet details the operation and uses of these economy-producing units.



☐ 2

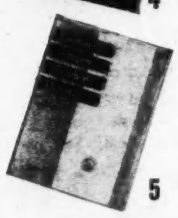
Here's an unusually full discussion of the advantages of modern salt baths for heat treating, case hardening and carburizing. Also described are Cyanamid's complete line of salts for these purposes.

☐ 3

Cyanamid here presents its new AEROCAT** MS-A Synthetic Fluid Cracking Catalyst for the refining industry. Microspheroidal in form, the new catalyst offers increased catalytic efficiency with minimum formation of fines.

☐ 4

Complete technical information on Cyanamid's AEROLUBE* Additives for high-quality motor oils. AEROLUBE Additives provide maximum corrosion resistance, oxidation stability, and engine cleanliness.



☐ 5

Described here are some of the new nitrogen derivatives developed by Cyanamid. All are offered for research in the field of chemical synthesis and for the development of new products.

*Reg. U. S. Pat. Off. **Trade-mark

AMERICAN Cyanamid COMPANY

Industrial Chemicals Division

30 ROCKEFELLER PLAZA · NEW YORK 20, N. Y.

Logwood Extract—Methylcyclohexanol

Logwood extract, crystals, No. 1, bbls., l.c.l..lb. .37 - —
No. 2, bbls., l.c.l. .....lb. .35 - —
liquid, No. 1, bbls., l.c.l.....lb. .18 - —
No. 2, bbls., l.c.l.....lb. .17 - —
No. 3, bbls., l.c.l.....lb. .16½- —
No. 4, bbls., l.c.l. .....lb. .16 - —
solid, No. 1, bxs., l.c.l.....lb. .32 - —
No. 2, bxs., l.c.l.....lb. .30 - —
No. 4, bxs., l.c.l.....lb. .27½- —
No. 5, bxs., lc.l.....lb. .25½- —
No. 6, bxs., l.c.l.....lb. .43½- .48½
Lovage root, imp., bls.....lb. 1.20 - 1.25
Lupulin, NF VII tin.....lb.10.00 -11.00
Lycopodium, NF, cs.....lb. 2.50 - 2.75

M

Mace, No. 1, Siauw, cs.....lb. 1.40 - 1.45
East Indian, bgs., futures.....lb. 1.40 - 1.45
West Indian, bgs., futures.....lb. 1.40 - 1.50
Broken, futures.....lb. 1.25 - 1.30
Madder, Dutch, bgs.....lb. .29 - .32
Magnesia, calcined, tech., bbls., works..lb. .29 - —
USP, bbls.....lb. .31 - .33
Magnesium arsenate, bgs., cans, works..lb. .20 - .30
Bromide, dms. .....lb. .90 - 1.00
Carbonate, tech., bgs., c.l., frt. equald..lb. .07¼- —
l.c.l., frt., alld.....lb. .08¼- —
bbls., c.l., frt. equald.....lb. .08½- —
l.c.l., frt. alld.....lb. .09½- —
kgs., c.l., frt. equald.....lb. .09¾- —
l.c.l., frt. alld.....lb. .10¾- —
Magnesia carbonate, USP, bgs., c.l., frt. equald..lb. .09 - —
l.c.l., frt. alld.....lb. .10 - —
bbls., c.l., frt. equald.....lb. .09½- —
l.c.l., frt. alld.....lb. .10½- —
kgs., c.l., frt. equald.....lb. .10¾- —
l.c.l., frt. alld.....lb. .11¾- —

Magnesium carbonate is quoted frt. alld. to N. J., except to Atlantic, Burlington, Cape May, Cumberland, Glostershire, Ocean, and Salem counties, and to Phila. county, Pa. Frt. equald, with N. Y. C. on all other destinations.

Chloride, anhyd., bbls., dlvd.....lb. .12¾- —
flake, bbls., c.l., works.....ton.37.00 - —
l.c.l., works.....ton.44.00 -46.00
Fluoride, bbls.....lb. .20 - .25
Hydroxide, medicinal, bbls., dms., kgs..lb. .29 - .30
Hypophosphite, cns.....lb. 1.45 - —
Laurate, bbls. .....lb. .46 - .47
Metal, 98.8%, ingots, cs. .....lb. .20½- —
sticks, cs. .....lb. .34 - .38
Oxide (see Magnesia, calcined).
Peroxide, 15%, dms., works.....lb. 1.00 - 1.05
Phosphate, tribasic, USP, bbls....lb. .62 - .67
Silicate (see Talc).
Silicofluoride, bbls., works.....lb. .10 - —
Stearate, ctns., 2,000 lbs. to c.l...lb. .48 - —
smaller lots .....lb. .49 - —
Sulphate (see Epsom salt).
Trisilicate, dms., 1,000 lbs.....lb. .37 - —
smaller lots.....lb. .42 - —
Magnesite, calcined, powd., bgs., c.l., mines, Calif....ton.60.00 - —
dead-burnt, bulk, c.l., Chewalah, Wash..ton.24.00 - —
Maleic anhydride, dms., c.l.....lb. .25 - —
l.c.l. .....lb. .26 - —
Malva flowers, blacks, bls.....lb. No stocks.
Blue, bls. .....lb. 1.45 - 1.50
Leaves, bls. .....lb. .40 - .41
Manaca root, bls.....lb. .49 - .50
Mandrake root, bls.....lb. .40 - .45
Manganese acetate, dms.....lb. .25½- —
Arsenate, bgs. .....lb. .12 - .12½
Borate, tech., bbls.....lb. .16 - .18
Carbonate, bbls. .....lb. .19 - —
Chloride, anhyd., dms., works....lb. .18 - .19
Dioxide, African, battery, 84%-87% bbls., 28-40 tons, works..ton.74.00 - —
smaller lots, works..ton.77.00 -82.00
burlap bgs., c.l., works, ton.71.75 - —
l.c.l., works .....ton.74.75 -79.79
paper bgs., c.l., works, ton.70.00 - —
l.c.l., works .....ton.73.00 - —
85-90%, bbls., c.l., works..ton.74.00 - —
smaller lots, works.....ton.77.00 -82.00
Glycerophosphate, fib. dms.....lb. 4.25 - —
Hydrate, bbls., dlvd.....lb. .26 - —
Iodide jars .....lb. 5.55 - —
Linoleate, liquid, 4% Mn, dms.....lb. .41 - —
solid, precip., 8.2% Mn, bbls....lb. .43 - —
Metal, cs., dlvd. East.....lb. .30 - .32
Naphthenate liquid, 6% Mn, dms..lb. .21 - —
solid, 10% Mn, dms.....lb. .33½- —
Resinate, fused, 3½% Mn, bbls....lb. .09 - .10½
precip., dms.....lb. .20 - —
Soyate, 8.2% Mn, dms.....lb. .22 - —
Sulphate, anhyd., dms., works..lb. No stocks
feed grade, 77-80%, bgs.....lb. .04 - .06
fertilizer grade, 65%, bgs., c. l., dlvd E..ton.56.00 - —
l.c.l., dlvd. E. of Balto. or Cincinnati..ton.63.00 - —
industrial grade, 80%, bgs.....lb. .05 - .05¾
75%, bgs., c.l., dlvd. East....ton.64.50 - —
l.c.l., same basis.....ton.71.50 - —
Tallate, liquid, 4% Mn, dms.....lb. No prices
solid, 8% Mn, dms.....lb. No prices

Mangrove bark, E. Africa, 38% tannin, c.l., ex dock..ton.58.00 -60.00
Manna, flake, large, cs.....lb. 1.50 - 1.55
small, cs.....lb. .70 - .75
Mannitol, com'l, bbls., works.....lb. .38 - .43
reagent, cs., works.....lb. .85 - —
Marjoram, Argentine, bls.....lb. .14 Nom.
Chilean, bls. .....lb. .12 - .12½
futures, bls.....lb. .10 - .10½
French, bls. .....lb. .38 - .38½
Matico leaves, bls.....lb. .17 - .18
Menadione, USP, bots., works..gram. .10 - —
Menthol, natural, USP, Brazilian, cns..lb. 9.00 - 9.25
synthetic, tech., cns.....lb. 6.00 - 6.40
USP, laevo, cns.....lb. 8.90 - —
racemic, cns.....lb. 7.60 - 8.00
Menthyl salicylate, tins.....lb. 3.00 - 3.10
Mercury bichloride (see Corrosive sublimate).
Bisulphate, dms. .....lb. 2.33 - 2.35
Chloride (see Calomel).
Cyanide, cryst., powd.....lb. 3.54 - 3.59
Iodide, red, NF, dms.....lb. 4.32 - —
Yellow, NF, fib. dms.....lb. 4.42 - —
Metal (see Quiuksilver).
Oxide, red, NF (see Red precipitate).
yellow, tech. (see Yellow, mercury oxide).
USP, fib. dms. .....lb. 2.74 - 2.76
Mesityl oxide, dms., c.l., dlvd.....lb. .13 - —
l.c.l., dlvd. .....lb. .13½- —
tanks, dlvd. .....lb. .11½- —
Metachloranilin, dms., works.....lb. .65 - —
Metacresol, 98%, dms., works.....lb. .65 - —
Metanitroparatoluidin, bbls. .....lb. 1.16 - 1.21
Metaphenylenediamine, kgs.....lb. .72 - —
Metatolylenediamine, kgs.....lb. .77 - —
Methanol, natural, all grades, group A, dms., extra, c.l., E. of Miss. gal. .63 - —
l.c.l., same basis.....gal. .73 - —
tanks, same basis.....gal. .60 - —
group B, dms., incl., c.l., frt. alld. gal. .67 - —
l.c.l., same basis.....gal. .78 - —
tanks, same basis.....gal. .60 - —

Prices on natural methanol W. of Miss. 3c. higher

synthetic, dms., c.l., zone 1, frt. alld. gal. .34½- —
2, frt. alld. or dlvd.....gal. .37½- —
3, frt. alld. .....gal. .41½- —
4, frt. alld. .....gal. .41½- —
l.c.l., zone 1, frt. alld. or dlvd.gal. .37 - —
2, frt. alld.....gal. .44 - —
3, dlvd. S. F. and L. A.....gal. .42 - —
4, frt. alld. or dlvd.....gal. .52½- —
Methanol, synth., tanks, zone 1, frt. alld..lb. .24 - —
2, frt. alld. .....gal. .27 - —
3, frt. alld. .....gal. .29 - —
4, frt. alld. .....gal. .29 - —

Synthetic methanol zones are: Zone 1—Conn., Del., D. C., Ill., Ind., Ia., Ky., Me., Md., Mass., Mich., Minn., Mo., Neb., N. H., N. J., N. Y., N. C., O., Pa., R. I., S. C., Tenn., Vt., Va., W. Va., and Wis. Zone 2—Ala., Ark., Col., Fla., Ga., Kan., La., Miss., N. Mex., N. Dak., Okla., S. Dak., Tex., and Wyo., Zone 3—Los Angeles and San Francisco. Zone 4—Ariz., Calif. (with exception of Los Angeles and San Francisco), Ida., Mont., Nev., Ore., Utah and Wash. Buyers in zone 4 have the option of buying at the delivered zone 4 price or at the zone 3 price, f.o.b. Los Angeles and San Francisco.

Methyl abietate, non-ret. dms., c.l., dlvd..lb. .13¼- .13¾- I
l.c.l., dlvd.....lb. .13¾- —
hydrogenated, non-ret, dms., c.l., dlvd..lb. .15½- —
l.c.l., dlvd. .....lb. .16 - —
Acetate, CP, 97-99%, dms., c.l., E. of Miss..lb. .10½- .12
W. of Miss. .....lb. .11½- .12
l.c.l., E. of Miss.....lb. .11 - .14
W. of Miss.....lb. .12 - .13½
tanks, E. of Miss.....lb. .09½- —
W. of Miss.....lb. .10½- —
tech., dms., c.l., E. of Miss.....lb. .07 - .09
W. of Miss.....lb. .08 - —
l.c.l., E. of Miss.....lb. .07½- .11
W. of Miss.....lb. .08½- .10½
tanks, E. of Miss.....lb. .06 - —
W. of Miss.....lb. .07 - —
Acetoacetate, dms., c.l., frt. alld. E. lb. .42 - —
l.c.l., same basis.....lb. .42½- —

Methyl acetoacetate prices, frt. alld. W., ½c. tanks, zone 1, frt. alld.....lb. .24 - —

Acetone, natural, group A, dms., extra, c.l., E. of Miss., frt. alld.gal. .50 - —
l.c.l., same basis.....gal. .57 - —

Natural Methyl acetone group A prices W. of Miss. 3c. per gal higher.

group B, dms., incl., c.l., E. Miss., frt. alld..gal. .67 - —
l.c.l., same basis.....gal. .78 - —
tanks, same basis.....gal. .60 - —
synthetic, dms., c.l., works, frt. alld E..gal. .53¾- —
frt. alld. W.....gal. .56½- —
l.c.l., works, frt. alld. E..gal. .57 - —
frt. alld. W.....gal. .59 - —
tanks, works, frt. alld. E....gal. .44¼- —
frt. alld. W.....gal. .46½- —

Methyl acetone, synth. East territory is all States East of and including Colo., Mont., N. Mex. and Wyo. West territory, all States West of those four.

Alcohol (see Methanol).
Anthranilate, dms.....lb. 2.20 - 2.50
bots., cns.....lb. 2.20 - 2.60
Benzoate, cns.....lb. .45 - 1.20
Bromide, cns.....lb. .63 - .65
cyls. .....lb. .55 - .70
Chloride, indust., cyl., works...lb. .16 - —
tanks, multi-unit, works.....lb. .14⅝- —
single-unit, works.....lb. .14 - —
refrigeration, indust. consumers, refrigeration machinery mfrs., cyls., dlvd..lb. .33 - —
retail refrigeration consumers or service men, cyls., dlvd..lb. .41 - —
Cinnamate, cns.....lb. 1.43 - 3.50
Formate, dms.....lb. .89 - —
Iodide, bots.....lb. 3.00 - 3.25
Lactate, dms., l.c.l., works.....lb. .35 - —
Methacrylate, M-1, dms., works..lb. .45 - —
cns., works.....lb. .48 - .58
P-1, cns., works.....lb. .60 - —
Salicylate, dms., 500 lbs.....lb. .40 - —
25-50 lbs. .....lb. .45 - —
Methylal, crude, dms., c.l., works...lb. .04 - —
l.c.l., works .....lb. .05 - —
tanks, works .....lb. .02 - —
refined, 95%, dms., c.l.....lb. .07 - —
l.c.l., works .....lb. .08 - —
tanks, works .....lb. .04½- —
Methylamyl ketone, cns., dms., works. lb. No stocks
Methylcellulose, special vis. (4,000 cps.), fib. ctns., 2,000 lbs. or more, frt. alld..lb. .70 - —
smaller lots, frt. alld. on 100 lbs. lb. .75 - .80
standard vis. (15-1,500 cps.), fib. ctns., 2,000 lbs. or more..lb. .63 - —
smaller lots, frt. alld. on 100 lbs. lb. .68 - .73
Methylcyclohexane, 98-100%, dms., works..lb. .16 - —
Methylcyclohexanol, 98-100%, dms., works..lb. .23 - —

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ALUMINA HYDRATE
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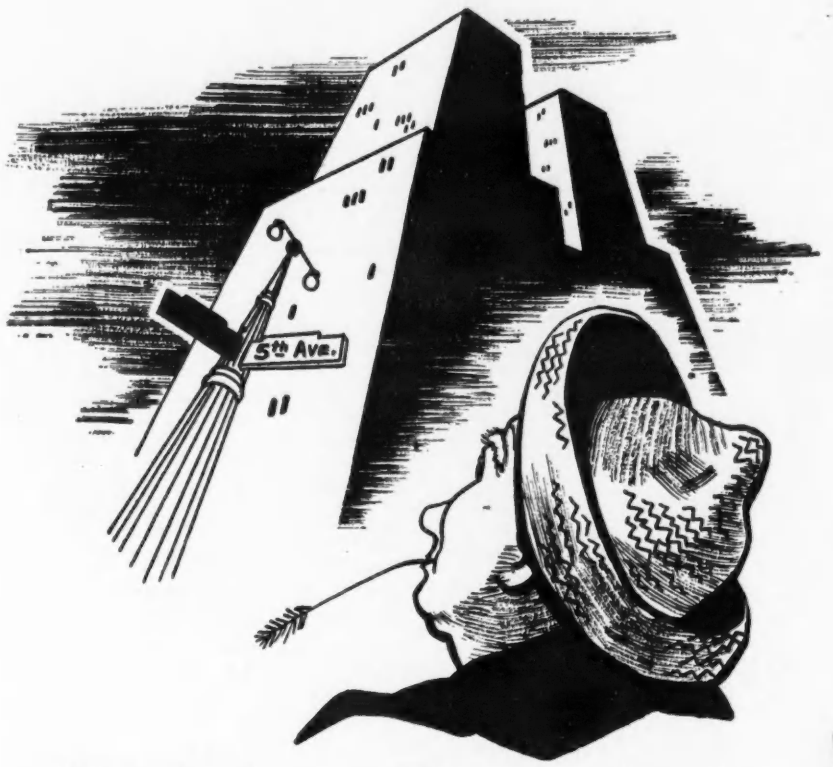
ALUMINUM CHLORHYDROL
BARIUM SULFATE
BARIUM PEROXIDE
BENZOATE OF SODA
BICARBONATE OF SODA
BENZENE HEXACHLORIDE
BENZOYL PEROXIDE
BLANC FIXE
CARBON TETRACHLORIDE
CARBON BISULPHIDE
CAUSTIC POTASH
CAUSTIC SODA
CITRIC ACID
CALCIUM CITRATE
CREAM OF TARTAR
DDT
EPSOM SALT
LECITHIN
LITHIUM SALTS
PERCHLORETHYLENE
PHOSPHORIC ACID
PHOSPHOROUS (RED AMORPHOUS)
ROCHELLE SALT
SAPONIN
SODIUM SULPHIDE
SODA ASH
SODIUM TRIPOLY PHOSPHATE
SODIUM TETRA PYROPHOSPHATE
TARTARIC ACID
TARTAR EMETIC
TRICHLORETHYLENE
VANILLIN



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ALUMINUM CHLORIDE
ACETONE
ACETANILID
ACID SODIUM PYROPHOSPHATE
BARIUM HYDRATE

Methylcyclohexanone—Oil, Castor, Dehydrated

Methylcyclohexanone, 98-100%, dms., works..lb. No stocks
Methylene blue, tech. (see Dyes, coal-tar).
USP, 100-lb. lots, kgs., frt. equald. lb. 2.20 - —
50-lb. lots, kgs., same basis..lb. 2.30 - —
25-lb. lots, kgs., same basis..lb. 2.35 - —
Chloride, indust., dms., c.l., dlvd. E. lb. .12½- —
l.c.l., dlvd., E.....lb. .13½- —
tanks, dlvd., E.....lb. .11½- —
Methyleneanilin, dms., ton lots, frt. alld..lb. .36 - —
smaller lots, same basis.....lb. .37 - —
Methylethyl ketone, dms., dlvd.....lb. .10½- —
l.c.l., dlvd.....lb. .11 - —
tanks, dlvd.....lb. .09 - —
Methylhexyl ketone, tech., dms., works, lb. .60 - —
Methylionone, A, cns.....lb. 6.55 - 8.80
D, cns.....lb. 7.50 - 9.55
prime, cns.....lb. 4.55 - 6.40
Methylisobutyl carbinol (see Carbinol, methylisobutyl).
Ketone, dms., c.l., dlvd.....lb. .14 - —
l.c.l., dlvd.....lb. .14½- —
tanks, dlvd.....lb. .12½- —
Methylnaphthyl ketone, cns.....lb. 3.00 - 3.75
Methylpentanediol, dms., works, dlvd. lb. .18 - —
l.c.l., works, dlvd.....lb. .19 - —
tanks, works, dlvd.....lb. .16½- —
Methylthionine chloride (see Methylene blue).
Mica, dry-grd., paint, plastic, 100 mesh, bgs., c.l., works..lb. .63¼- —
roofing, 20 to 80 mesh, works....lb. .03 - —
Mica, wet-grd., biotite, bgs., c.l., works, frt. alld. E..lb. .65½- —
l.c.l., ex whse. or frt. alld. E. lb. .66¼- —
extra fine, bgs., c.l., works, frt. alld. E..lb. .65½- —
l.c.l., ex whse. or frt. alld. E. lb. .66¼- —
paint or lacq., bgs., c.l., works, frt. alld. E..lb. .67 - —
l.c.l., ex whse. or frt. alld. E.lb. .67½- —
rubber, bgs., c.l., works, frt. alld. E..lb. .66¾- —
l.c.l., ex whse. or frt. alld. E. lb. .67½- —
wallpaper, bgs., c.l., works, frt. alld. E..lb. .67 - —
l.c.l., ex whse. or frt. alld. E. lb. .67¾- —
white, extra fine, bgs., c.l., works, frt. alld. E..lb. .67 - —
l.c.l., ex whse. or frt. alld. E. lb. .67⅞- —
Mica, wet-grd. W. of Miss R., ½c. higher. W. of Rockies, 1c. higher.
Milk powder, skimmed, roller, bbls., c.l..lb. .13½- .14¾
spray, bbls., c.l.....lb. .14½- .15¼
Whole, roller, bbls., c.l.....lb. .38 - .39½
spray, bbls., c.l.....lb. .39 - .42½
Sugar, edible, bbls., works, 30,000-lb. lots..lb. .24 - —
2,000-lb. lots .....lb. .24¾- —
200-1,800-lb. lots .....lb. .25¼- —
USP, bbls., works, 3,000-lb. lots..lb. .26 - —
2,000-lb. lots .....lb. .26¾- —
200-1,800-lb. lots .....lb. .27¼- —
Mineral spirits (see Petroleum, mineral spirits).
Molasses, blackstrap, tank, U. S. port..gal. .29 - .30
Molybdate orange (see Orange, molybdate).
Molybdenum metal, 99% Mo. powd., kgs..lb. 2.60 - 3.00
Trioxide, pure, kgs., works, basis Mo. content..lb. .95 - —
technical, kgs., works, basis Mo. content..lb. .80 - —
Monochlorobenzene, dms., c.l., works, frt. equald..lb. .06 - .07½
l.c.l., works .....lb. .06½- .08½
smaller containers, works.....lb. .09 - .10
tanks, works, frt. equald.....lb. .05½- .06
Monoethanolamine, dms., c.l., frt. alld. E..lb. .25½- —
l.c.l., same basis.....lb. .26½- —
smaller containers, same basis...lb. .29½- —
tanks, same basis.....lb. .24 - —
Monoethylamine, dms., c.l., wks. basis 100%..lb. .17 - —
l.c.l., same basis.....lb. .18 - —
tanks, same basis.....lb. .15 - —
Monomethylamine, anhydrous, cyl., works, basis 100%..lb. .34½- .44½
25%-40%, dms., c.l., same basis..lb. .34 - —
tanks, same basis.....lb. .30 - —
Monomethylpara-aminophenol sulphate, dms..lb. 2.40 - 2.90
Monononylnaphthalene, tanks, wks.lb. .16 - —
Monosodium glutamate (see Sodium glutamate, monobasic).
Phosphate (see Sodium phosphate, monobasic).
Morphine, cns., 25 ozs.....oz. 12.40 - —
Acetate, cns., 25 ozs.....oz. 9.90 - —
Hydrobromide, cns., 25 ozs.....oz. 9.80 - —
Hydrochloride, cns., 25 ozs.....oz. 9.90 - —
Sulphate, cns., 25 ozs.....oz. 9.90 - —
Morpholine, dms., l.c.l., works.....lb. .67 - —
smaller containers, works.....lb. .75 - —
Mountain ash berries, bgs.....lb. .75 - .76
Mullein leaves, bls.....lb. .12 - .13
Musk, nat., Tonquin, grains, bots..oz. 38.00 -55.00
synthetic, ambrette, cns., 5-lb..... 8.00 -14.25
Ketone, cns., 100 lbs. or more..lb. 4.60 - 4.95
25 lbs. .....lb. 4.70 - 5.05
5 lbs. .....lb. 4.80 - 5.20
Xylol, cns. .....lb. 1.60 - 1.80
25 lbs. .....lb. 1.70 - 1.90
5 lbs. .....lb. 1.80 - 2.00
Muskroot, bls. .....lb. No stocks.
Mustard seed, Calif., brown, futures.lb. .21 - .21½
Danish, yellow, bgs.....lb. .18 - .18½
Dutch, yellow, bgs.....lb. .17½- .18
futures, bgs. .....lb. .18½- .19
Montana, brown, bgs., source...lb. .13½- .14
Oriental, bgs. .....lb. .08½- .09
new crop futures, source....lb. .07½- .08
yellow, bgs., new crop futures, source..lb. .16½- .17
Washington, yellow, bgs.....lb. No prices.
Myrobalans, J1, good quality, ex dock. ton. 54.00 -55.00
J2, ex dock .....ton. 45.00 -46.00

N

Naphtha, painters (see Petroleum naphtha, V. M. & P.).
Solvent (see S).
Naphthalene, dom., crude, 74° bgs., bbls., c.l., frt. equald..lb. No prices.
tanks, same basis.....lb. .0425- .0475
78°, bgs., c.l., same basis....lb. No prices.
bbls., c.l., same basis.....lb. .0410- .055
l.c.l., same basis.....lb. .0435- .06
tanks, same basis.....lb. .0450- .05
refined, balls, flakes, bbls., wholesalers and jobbers, c.l., works. lb. .11 - —
50-lb. cs., c.l., same basis....lb. .11¼- —
1-lb. pkgs., c.l., same basis..lb. .12½- —
Neocinchopen, USP, dms., works..lb. 7.00 - 7.10
Nepheline syenite, glass, 24 mesh, bulk, Rochester, N. Y.....ton. 13.75 - —
pottery, 200 mesh, bulk, Rochester, N. Y..ton. 17.25 - —
Nepheline syenite in bgs., $3 per ton higher than bulk.
Nerolin, crys., cns.....lb. 1.70 - 2.00
Niacin (see Acid, nicotinic).
Niacinamide (see Nicotinamide)
Nickel, carbonate, bbls.....lb. .39 - —
Chloride, bbls. .....lb. .20 - —
Cyanide, bots., dms.....lb. 1.75 - 2.00
Metal, electro cathodes, cs.....lb. .35½- —
oxide, black, bbls.....lb. .35 - .38
Salt, bbls. .....lb. .14 - .14½
Nicotinamide, USP, dms., works..kilo. 9.50 - 9.80
Nicotine sulphate, 40%, dms., dealers, frt. alld. over 50 lbs..lb. .988 - —
tins, dealers.....lb. 1.105 - —
Nikethamide, bots, cbys.....lb. 5.50 - 6.60
Nitercake, bulk, works.....ton. 20.00 -24.00
Nitrobenzene, dbl. dist., dms., c.l..lb. .08½- .08¾
l.c.l. .....lb. .09½- .10
tanks .....lb. .07½- .07¾
Nitrocellulose, ester-soluble, 30-35 cps., ¼, ½, 5-6, 15-20, 30-40, and 60-80 secs., bbls., c.l., works, dry weight..lb. .26 - —
l.c.l., same basis.....lb. .27 - .29
18-25 cps., 125-175 secs., bbls., c.l., same basis..lb. .28 - —
l.c.l., same basis.....lb. .29 - .31
250-400 secs. and 600-1,000 secs., bbls., c.l., same basis..lb. .31 - —
l.c.l., same basis.....lb. .32 - .34
spirit-soluble, 30-35 cps., ¼, ½, 5-6 and 40-60 secs., bbls., c.l., same basis..lb. .32 - —
l.c.l., same basis.....lb. .33 - .35
Denatured alcohol used in the manufacture of nitrocellulose is charged extra. Barrels extra, not returnable.
Nitrogen solution, tanks, works, N. ton. 107.00 -114.84
Nitrogenous process tankage, bulk, works, ammo. unit ton. 4.60 - 6.50
Sewage sludge, bulk, works, unit ton. 4.15 - 4.6-
Nitromethane, dms., c.l., works....lb. .25 - —
Nitronaphthalene, bots.....lb. .24 - .25
Nitropropane, 1, dms., works.....lb. .25 - —
2 dms., works.....lb. .25 - —
Nonylnaphthalene blend (mono and di), tanks, works..lb. .14 - —
Nutgalls, bgs. .....lb. .44 - .50
Nutmegs, East Indian, bgs., futures, oil..lb. .54 - .55
West Indian, bgs.....lb. .57 - .58
futures .....lb. .56 - .57
Nux vomica, bls.....lb. .09 - .10
powdered, bbls., bxs.....lb. .12 - .13

O

Oakbark extract, 25% tannin, bbls., c.l., works..lb. No stocks
Octane, 100°-140° C, industrial grade, dms., c.l., group 3..gal. .16 - —
l.c.l. .....gal. .20 - .25
tanks, group 3.....gal. .12 - —
Octanol (see Alcohol, ethylhexyl).
Oil, almond, bitter, artificial (see Benzaldehyde).
natural, F.P.A., bots.....lb. 4.50 - 5.00
NF, bots.....lb. 4.90 - —
Sweet, dms., cns.....lb. .69 - 1.80
Angelica root, bots.....lb. 120.00 -250.00
Seed, bots.....lb. 120.00 - 200.00
Anilin (see A).
Anise, USP, Chinese, dms.....lb. 1.00 - 1.05
Russian, cns.....lb. 3.25 - 3.75
Apricot kernel, cns.....lb. .65 - .85
Avocado, cns., dms.....lb. 1.00 - 1.10
Babassu, tanks.....lb. .24 Nom.
Bay, NF, Puerto Rican, 50-55%, cns. lb. 1.60 - 2.25
55-60%, cns.....lb. 1.70 - 2.35
60-65%, cns.....lb. 2.50 - —
West Indian, 50-55%, cns.....lb. 1.20 - 1.65
Bergamot, artif., cns.....lb. 3.50 - 4.25
natural, Italian, cns.....lb. 5.00 - 6.00
Birch (see Oil, sweet birch).
Birchtar, crude, cns.....lb. .95 - 1.70
rectified, cns. .....lb. No stocks.
Bois de rose, Brazil, cns.....lb. 3.00 - 3.50
Mexican (see Oil, lignaloe wood).
Bone, dms., works.....gal. .65 - .70
Cajeput, tech., dms.....lb. 2.50 - 2.90
redistilled, USP IX, cns.....lb. 2.35 - 3.40
Calamus, cns. .....lb. 20.00 - 28.00
Camphor, natural, white, cns.....lb. .20 - .25
synthetic, dms. .....lb. .15 - .25
Canvoga, natural, cns.....lb. 6.00 - 9.10
rectified, cns. .....lb. 9.35 -12.00
Capsicum (see Capsicum oleoresin).
Caraway, NF, cns.....lb. 5.50 - 6.50
Cardamom, bots. .....lb. 24.50 -31.50
Cassia, USP, cns. .....lb. 2.10 - 2.75
Castor, blown, ret. dms., c.l.....lb. .30 - .30½
l.c.l. .....lb. .31 - .31½
cold-pressed, USP, ret. dms., c.l., lb. .28½- —
l.c.l. .....lb. .29½- —
tanks .....lb. .27½- —
dehydrated, bodied, dms., c.l....lb. .29½- —
l.c.l. .....lb. .31 - —
tanks .....lb. .30 - —
unbodied, dms., c.l.....lb. .28½- —
l.c.l. .....lb. .30½- —
tanks .....lb. .29 - —

When it Smells better ...It sells better!

• Hundreds of products that formerly were associated with disagreeable odors are now enjoying respectability and acceptance due to the art of industrial perfuming.

• Felton Chemists and Perfumers daily apply the practical science of industrial perfuming by combining the CORRECT PERFUME with a particular product to give it *Extra* Acceptance and *Extra* Saleability.

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DO YOU MAKE ANY OF THESE ITEMS?

- CLEANING FLUIDS AND NAPTHAS
- LUBRICATING OIL AND GREASE
- CUTTING OILS
- GLUES AND PASTES
- INSECTICIDES
- DISINFECTANTS
- LINOLEUM
- LATEX
- PRINTING INKS
- PAINTS, VARNISHES AND LACQUERS
- TEXTILES
- RUBBER
- FUR
- FEATHERS
- COTTON BATTING
- PLASTICS
- LAUNDRY STARCH
- TEXTILE FINISHING OILS
- WAXES
- LEATHER

Remember!
WHEN IT SMELLS BETTER . . . IT SELLS BETTER

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CHEMICAL CO., INC.
599 JOHNSON AVENUE, BROOKLYN 6, NEW YORK
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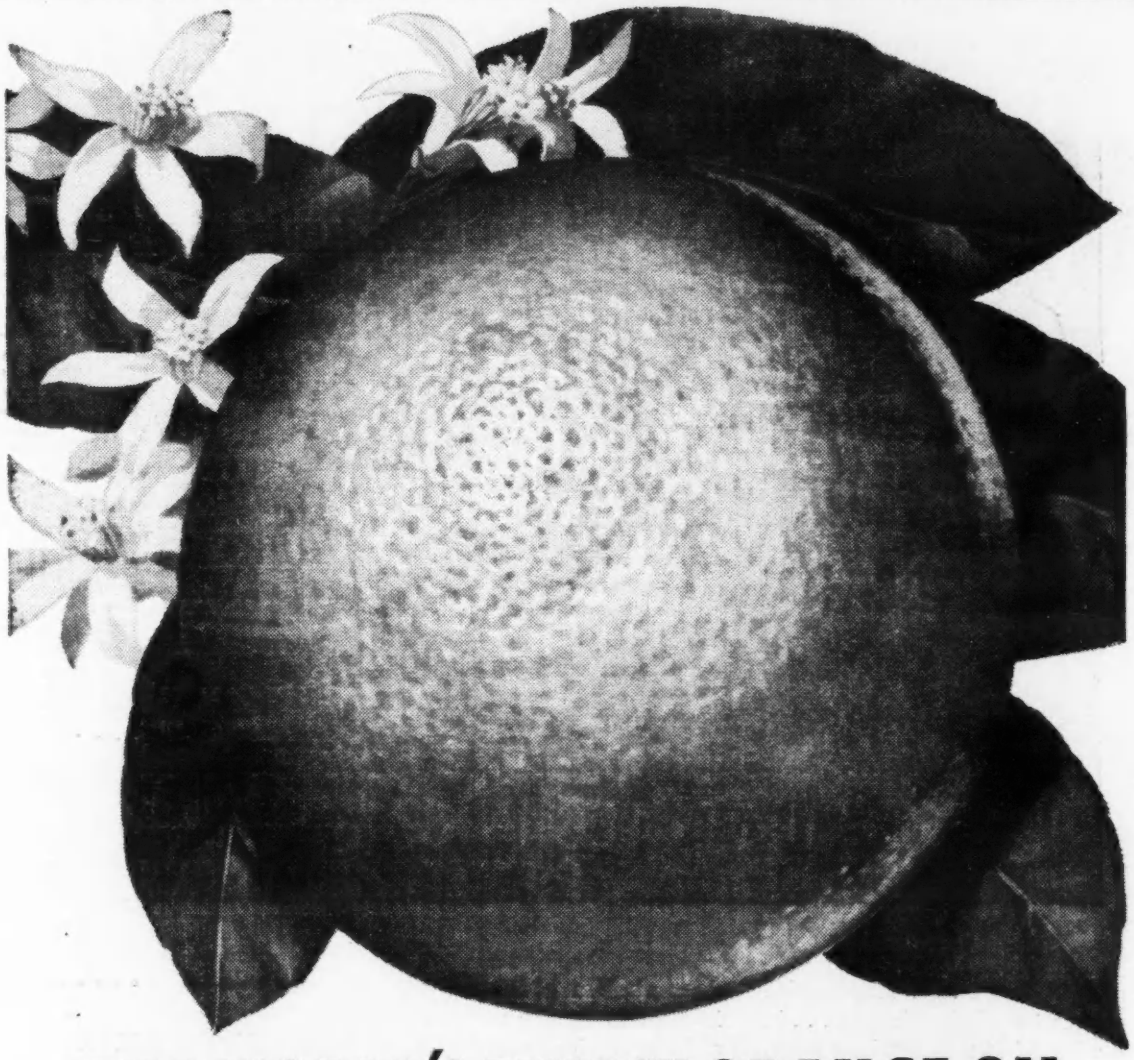
MANUFACTURERS OF AROMATIC CHEMICALS, ESSENTIAL OILS, PERFUMES AND FLAVORS

Oil, castor, No. 3, tech., dms., c.l.	lb.	.27½- —
l.c.l.	lb.	.28½- —
tanks	lb.	.26½- —
sulphonated, 50% (48% fat), dms.	lb.	.16½- .17½
75% (60-62% fat), dms.	lb.	.23 - .24
Cedarleaf, USP, cns., dms.	lb.	2.15 - 2.85
Cedarwood, cns.	lb.	.70 - .95
dms.	lb.	.70 - .85
Celeryseed, bots.	lb.	15.00 -20.00
Chaulmoogra, NF, cns., dms.	lb.	.56 - —
Chinawood (see Oil, tung).		
Cinnamon bark, bots.	lb.	52.50 -62.00
Leaf, dms.	lb.	1.85 - —
Citronella, Ceylon, cns.	lb.	.75 - 2.75
Java, cns.	lb.	1.25 - 4.75
Clove, USP, cns.	lb.	1.70 - 1.70
Coconut, crude, tanks, Atlantic ports.	lb.	.23 Nom.
Pac. coast	lb.	.22 Nom.
refined, Cochin type, tax incl., dms., c.l.	lb.	.23½- —
deodorized, tax incl., dms., l.c.l.	lb.	.31 - —
Cod, Newfoundland, dms.	lb.	.22 - —
Codliver, USP, dms.	gal.	2.40 - 3.50
Coriander, bots.	lb.	27.00 -33.00
Corn, crude, tanks, works	lb.	.26 - —
foots, acid, 95%, tanks, dlvd. E.	lb.	.11½- —
raw, 50%, tanks, dlvd. E.	lb.	.05½- —
refined, tanks, works	lb.	.50 Nom.
Cottonseed, crude, tanks, works	lb.	.25 - —
foots, acid 95%, tanks, dlvd. E.	lb.	.11½- —
raw, 50%, tanks, dlvd. E.	lb.	.05½- —
deodorized, winterized, salad, dms., c.l.	lb.	.30 - —
L.c.l.	lb.	.32 - .32½
tankcars	lb.	.29 Nom.
Creosote (see C).		
Croton, NF, cns.	lb.	4.75 - 5.50
Cubeb, USP, cns.	lb.	6.75 -10.00
Crude (see Petroleum, crude).		
Cumin, bots.	lb.	6.25 -11.50
Cypress, bots.	lb.	11.00 -15.00
Degras (see D).		
Dillseed, bots.	lb.	4.25 - 7.00
Dillweed, bots., 25-lb. lots.	lb.	6.25 - 7.40
Dip (see D).		
Erigeron, USP, cns.	lb.	2.30 Nom.
Eucalyptus, rect., USP, 80-90%, cns.	lb.	1.05 - 1.45
70-80%, cns.	lb.	.95 - 1.30
Fennel, sweet, cns.	lb.	3.65 - 4.55
Fir, Canada, cns.	lb.	2.25 - 2.75
Fishliver, 8,000-15,000 A units per gram, dms., Pacific Cst., per million units.		.16 - —
15,000-30,000 units, dms., Pacific Cst., per million units.		.22 - —
30,000-60,000 units dms., Pacific Cst., per million units.		.22 - .25
60,000-100,000 units, dms., Pacific Cst., per million units.		.27 - —
100,000 to 150,000 units, dms., Pacific Cst., per million units.		.27 - .32
150,000 to 200,000 units, per million units.		.34 - —
concentrates 500,000 A units, per gram, dms., Pacific Cst., per million units.		.35 - —
1,000,000 A units, per million units.		.38 - .41
Fish oil prices include the 1894 conversion factor.		
Fuel (see Petroleum, fuel oil).		
Garlic, pure, bots.	oz.	15.00 - —
Gaultheria (see Oil, wintergreen).		
Geranium, Algerian, cns.	lb.	15.25 -21.00
Bourbon, cns.	lb.	11.00 -14.50
Russian, cns.	lb.	No stocks
Turkish (see Oil, palmarosa).		
Ginger, dist., bots.	lb.	8.00 -13.00
Grapefruit, Florida, cns.	lb.	2.25 - 2.50
California, bots, cns.	lb.	1.70 - 2.60
Grease, common, No. 1, dms.	lb.	.29½- .29¾
extra, winter strained, dms.	lb.	.30½- .30¾
prime, burning, dms.	lb.	.30½- .31
Guaiacwood, cns.	lb.	2.35 - 4.15
Hemlock, cns.	lb.	2.25 - 2.75
Herring, crude, tanks, Pac. coast	lb.	No prices
Juniper berry, dom., bots.	lb.	6.00 -12.50
imported, USP.	lb.	7.50 -12.00
Tar, USP (see Juniper tar).		
Wood, tech., cns.	lb.	.65 - 1.00
Lard (see Oil, grease).		
Laurel, bots.	lb.	20.00 Nom.
Lavandin, cns.	lb.	1.75 - 3.75
Lavender flower, French, 38-42° ester.	lb.	7.00 -10.15
30-32% ester	lb.	4.25 - 8.00
Russian, 25-lb.	lb.	11.75 - —
Spike, Spanish, pure, cns.	lb.	1.50 - 2.25
tech., cns.	lb.	1.75 - 2.75
Lemon, natural, USP, Calif., cns.	lb.	3.25 - 3.60
Messina, cns	lb.	3.65 - 3.85
terpeneless, bots.	lb.	40.00 -50.00
Lemongrass, cns., dms.	lb.	1.35 - 2.50
Lignaloe seed, Mexican, cns.	lb.	4.50 - 4.80
Wood, Brazilian (see Oil, bois de rose).		
Mexican, cns.	lb.	3.50 - 5.20
Lime, distilled, Mexican, cns.	lb.	3.80 - 5.15
West Indian, cns.	lb.	4.25 - 6.30
expressed, West Indian, cns.	lb.	9.50 -11.50
terpeneless, bots.	lb.	35.00 -45.00
Linseed, raw, dms., c.l.	lb.	.3180- .3250
l.c.l.	lb.	.3280- .3340
tankcars	lb.	.3080- .3130
tankwagon	lb.	.3100- .3150
Boiled linseed oil .007 higher than raw.		
Linseed replacement, dms.	lb.	.25 - .26
Lubricating, at refinery, ex tax.		
Group 3, bright stock, 150-160 vis., 10-25 p.p. tanks.	gal.	.285 - —
neutral, 300 vis., No. 3, col., 0.10 pour, tanks.	gal.	.21 - .22
200 vis., No. 3, col., 15-25 pour, tanks.	gal.	.18 - .19
145-155 vis., No. 3, color, 10-25 pour, tanks.	gal.	.285 - —
Penna., W., cylinder, 600-680 flash, tanks.	gal.	.33 - .33
600-650 steam refd., tanks,	gal.	.37 - —
neutral, 70° F., No. 3 color, 150 vis., 25 pour, tanks.	gal.	.37 - .39
200 vis., 25 pour, tanks.	gal.	.39 - .41
South Texas, neutral, pale 200 vis., 2½-4 pour, tanks.	gal.	.11 - .12
red, 200 vis., 4-6½ pour, tanks.	gal.	.11- .12½
Mace, dist., cns., dms.	lb.	5.20 - 8.75
Mandarin, Brazilian, cns.	lb.	5.75 - 8.40
Italian, cns.	lb.	9.00 - 9.25
Menhaden, crude, tanks, Balto.	lb.	.18 - .19
refined, alkali, dms., l.c.l.	lb.	.24½- —
kettle-bodied, dms., l.c.l.	lb.	.26 - —
light-pressed, dms., l.c.l.	lb.	.23 - —
tanks	lb.	.22 - —
Mineral, white (see Oil, white mineral).		
Mirbane (see Nitrobenzene).		
Mustard, synthetic, USP, cns.	lb.	1.45 - 1.70
Seed, exp., dms.	lb.	.24 - .25
Neatsfoot, 15°, dms.	lb.	.50 Nom.
20°, dms.	lb.	.48 Nom.
30°, dms.	lb.	.47 Nom.
Neroli, French, bots.	lb.	195.00 -350.00
Haitian, bots.	lb.	180.00 -200.00
Nutmeg, cns.	lb.	5.20 - 8.75
Ocotea cymbarum, dms.	lb.	.75 - 1.15
Officica, liquid, dms., c.l.	lb.	.26 - —
l.c.l.	lb.	.26½- —
tanks	lb.	.25 - —
Oil, oleo, extra, tcs., Chicago	lb.	.30 Nom.
Olibanum, bots.	lb.	4.50 - 6.25
extra fine	lb.	6.25 -10.50
Olive, denat., dms.	gal.	No stocks
edible, Calif., dms.	gal.	5.25 - 5.50
imported, dms.	gal.	5.75 - 6.25
foots, dms., c.l.	lb.	No prices
tankcars	lb.	No prices
sulphonated, 50% (40% fat), dms., c.l.	lb.	No stocks
l.c.l.	lb.	No stocks
75% (62% fat), dms., c.l.	lb.	No stocks
l.c.l.	lb.	No stocks
Orange, sweet, natural, dist., cns.	lb.	.80 - 1.25
expressed, USP, Brazilian, cns.	lb.	1.40 - 1.95
Calif., cns.	lb.	1.70 - 2.10
Florida, cns., dms.	lb.	1.40 - 1.85
Messina, coppers	lb.	4.50 - 5.50
West Indian, cns.	lb.	2.25 - 3.75
sesquiterpeneless, bots.	lb.	80.00 -135.00
Origanum, Spanish, cs.	lb.	3.20 - 3.50
Palm, Niger, dms.	lb.	No prices
Palmarosa, cns.	lb.	6.25 - 9.00
Palmkernel, crude, bulk, c.i.f., N. Y.	lb.	No prices
Paraffin, pale, 100-110 vis. at 100° F. tanks, works.	gal.	.10 - —
Patchouli, cns.	lb.	13.25 -45.00
Peanut, crude, tanks, works	lb.	.26 - .27
foots, acid, 95%, tanks, dlvd. E.	lb.	.11½ Nom.
raw, 50%, tanks, dlvd. E.	lb.	.05½ Nom.
refined, tanks, mills	lb.	.31 Nom.
Pennyroyal, USP, dom., dms., cns.	lb.	3.80 - 4.75
import, cns.	lb.	3.80 - 5.00
Peppermint, natural, dms.	lb.	7.85 - 8.75
redist., USP, dms.	lb.	8.35 - 9.60
Perilla, crude, dms.	lb.	No stocks
Oil, petitgrain, Paraguay, cns.	lb.	3.15 - 4.30
Pimento berry, dms.	lb.	4.25 - 6.50
leaf, cns.	lb.	1.75 - 3.25
Pine, dest. dist., dms, incl., c.i., works, South.	gal.	.70 - —
l.c.l., works, East	gal.	.79 - —
tanks, works, South	gal.	.61 - —
steam-dist., dms., ex whse., East.	lb.	.11 - —
Pineneedle, Canadian, 25-lb. cans.	lb.	2.20 - —
Siberian, cns.	lb.	3.05 - 3.75
Swiss, 25-lb. cans	lb.	4.00 -14.50
Putty, petroleum, heavy, dms.	gal.	.18 - —
tankwagon	gal.	.13½- —
light, dms.	gal.	.16½- —
tankwagon	gal.	.12½- —
Rapeseed, tankcars	lb.	.32 - —
Red, single dist., dms.	lb.	.28½- .29¼
tanks	lb.	.27½- —
double dist., dms.	lb.	.31¼- .32¼
tanks	lb.	.30 - —
Rose, natural, coppers	oz.	16.00 -40.50
Rosemary, Spanish, tech., cns., dms.	lb.	1.05 - 1.50
USP, cns., dms.	lb.	1.15 - 1.60
Rosin, 1st rectified, dms.	gal.	.66 - —
2d rectified, dms.	gal.	.68 - —
3d rectified, dms.	gal.	.78 - —
Rue, bots.	lb.	4.65 - 5.50
Sage, Dalmatian, cns.	lb.	4.50 - 5.50
Spanish, cns.	lb.	1.90 - 3.50
Sandalwood, NF, Mysore, cns.	lb.	13.75 -22.50
Sardine, crude, tanks, Pac. coast,	lb.	.18 Nom.
refined, alkali, dms., l.c.l.	lb.	.24½- —
kettle-bodied, dms., l.c.l.	lb.	.26 - —
light-pressed, dms., l.c.l.	lb.	.23 - —
tanks	lb.	.22 - —
Oil, sassafras, artificial	lb.	.65 - 1.25
natural, Brazilian (see Oil, ocotea cymbarum).		
domestic, USP XII, cns., dms.	lb.	1.70 - 2.80
Savin, cns.	lb.	5.75 -12.00
Savory, cns.	lb.	8.00 - —
Seal, No. 1, tanks, U. S. ports.	lb.	No prices
Sesame, tanks.	lb.	No prices
Shingle stain, bbls., c.l., works.	gal.	.2185- —
l.c.l., works	gal.	.25 - .29
tanks, works	gal.	.15 - .16
Snakeroot, Canada, cns.	lb.	17.50 -21.00
Soybean, crude, tanks, mills	lb.	.24 - —
foots, acid, 95%, tanks, dlvd. E.	lb.	.11½ Nom.
raw, 50%, tanks, dlvd. E.	lb.	.05¼ Nom.
refined, alkali, dms., c.l.	lb.	.2583- —
l.c.l.	lb.	.2620- .2660
tanks	lb.	.2463- —
clarified, dms., c.l.	lb.	.2433- —
l.c.l.	lb.	.2470- .2510
tanks	lb.	.2313- —
winterized, ref., tankcars, works.	lb.	.26 - —
Spearmint, dms.	lb.	7.00 -11.00
Sperm, bleached, 38°, dms.	lb.	.2570- —
natural, 45°, dms.	lb.	.2370- —
Spruce, cns., dms.	lb.	2.25 - 2.75
Sunflower-seed, imp., refined, tanks,	lb.	No prices
semi-refined, tanks	lb.	No prices
Sweet birch, Northern, cns.	lb.	4.50 - 8.00
Southern, cns.	lb.	2.50 - 3.25
Tall, crude, tanks, works	ton.	10.00 -45.00
refined, dms., c.l., works	lb.	.08¾- —
l.c.l., works	lb.	.07¾- —
tanks, works	lb.	.05¾- —
Tallow, acidless, dms.	lb.	.28½- .29
Tansy, cns.	lb.	11.00 -14.00

Oil, Castor, No. 3, Tech.—Oil, Tansy



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ORANGE
U. S. P.

Oil, Tar, Pine—Perchlorethylene

Tar, pine, crude, dms., incl., c.l., works, South..gal. .39 - —
l.c.l., works, South.....gal. .46½- .41
tanks, works, South.....gal. .39 - —
rectified, USP, l.c.l., dms., incl., works, South..gal. .60 - —
Tar acid (see T).
Thyme, NF, red, cns.....lb. 2.65 - 3.30
white, cns. .....lb. 2.85 - 3.80
technical, white, cns.....lb. .35 - 1.00
Tung, dms., c.l.....lb. .27½ Nom.
l.c.l. .....lb. .28 - .28½
tanks .....lb. .26 - .26½
Turkey red (see Oil, castor, sulphonated).
Turpentine, rectified, NF cns., dms., lb. .35 - .50
Vetiver, Bourbon, cns.....lb. 31.00 -38.00
Haitian .....lb. 28.50 -33.00
Whale, ref., natural, dms.....lb. No stocks
Winter-bleached, dms.....lb. No stocks
Wheat germ, dms.....gal. 10.00 -13.50
White mineral, tech., 50 vis., non-ret. dms., c.l., San Francisco..gal. .51½- —
l.c.l., S.F.....gal. .53½- .56½
50-60 vis., dms. c.l., N. Y....gal. .44½- —
l.c.l., N.Y.....gal. .48 - .49
65-75 vis., dms., c.l., N.Y.....gal. .47 - —
l.c.l., N.Y.....gal. .51 - .52
70 vis., non-ret. dms., c.l., S.F. gal. .51½- —
l.c.l., S.F.....gal. .53½- .56½
USP, 80-90 vis., dms., c.l., N.Y.. gal. .51 - —
l.c.l., N.Y.....gal. .55 - .56
Oil, white mineral, USP, 85 vis., non-ret. dms., c.l., S.F..gal. .51½- —
l.c.l., S.F.....gal. .53½- .56½
100 vis., non-ret. dms., c.l., S.F. gal. .59 - —
l.c.l., S.F.....gal. .61 - .64
125-135 vis., dms., c.l., N.Y..gal. .63 - —
l.c.l., N.Y.....gal. .67 - .68
145 vis., non-ret. dms., c.l., S.F. gal. .68 - —
l.c.l., S.F.....gal. .70 - .76
145-155 vis., dms., c.l., N.Y..gal. .65 - —
l.c.l., S.F.....gal. .70 - .73
175-185 vis., dms., c.l., N.Y..gal. .66 - —
l.c.l., N.Y.....gal. .68 - .73
180 vis., non-ret. dms., c.l., S.F. gal. .70 - —
l.c.l., S.F.....gal. .72 - .75
200-210 vis., dms., c.l., N.Y..gal. .72 - —
l.c.l., N.Y.....gal. .76 - .77
340-350 vis., dms., c.l., N.Y..gal. .80 - —
l.c.l., N.Y.....gal. .80 - .85
340 vis., non-ret. dms., c.l., S.F. gal. .83 - —
l.c.l., S.F.....gal. .85 - .88
Wintergreen, natural, Northern cns. lb. 6.35 -17.25
Southern, cns.....lb. 3.65 - 6.50
synthetic (see Methyl salicylate).
Wood (see Oil, tung).
Wormseed, NF, cns.....lb. 3.85 - 5.50
Wormwood, cns.....lb. 9.00 -13.50
Ylang-Ylang, Bourbon, extra, bots. lb. 14.00 -25.00
first, bots.....lb. 12.50 -14.50
second, bots.....lb. 8.00 - 9.50
third, bots.....lb. 5.25 - 7.50
Oleostearin, tres.....lb. .26½ Nom.
Olivine, aggregate, c.l., mines....ton. 7.00 - 9.50
crushed, 8 mesh, bulk, c.l., works, ton. 16.00 - —
paper, bgs., c.l., works.....ton. 12.00 - —
lumps, bulk, c.l., works.....ton. 7.00 - —
Opium, USP, cns.....lb. 21.30 -21.55
gran., USP, cns.....lb. 22.70 -22.95
powd., USP, cns.....lb. 22.70 -22.95
Orange, cadmium lithopone, bbls., frt. alld. E. of Rockies..lb. 1.00 - —
Chrome, CP, bbls., dlvd. N. of Tenn. and N. C., E. of Miss. R., includ. Davenport, Tenn. and N. C., E. of Minneapolis, Rock Island, St. Louis, St. Paul, contracts....lb. .26 - —
Chrome orange prices are ½c. higher, dlvd. Ala., Fla., Ga., La. (Shreveport); 1¼c. Miss., N. C., S. C., Tenn., Dallas and Ft. Worth, Tex.; 1½c. El Paso, Tex.; 2c. Cedar Rapids, Des Moines, Kansas City, Lincoln, Omaha, St. Joseph; 1.6c. higher dlvd. Pac. Coast; for Denver, Pueblo, Salt Lake City, Wichita, prices are equalized with Chicago.
Orange, dinitroaniln toner... .....lb. 1.15 - —
Molybdate, bbls. .....lb. .50 - —
Orthonitroaniln toner, bbls., kgs., works..lb. .90 - 95
Persian, bbls. .....lb. .30 - 45
Orange flowers, bls.....lb. .46 - 48
Orange mineral, American, bbls.. 5 tons, ship't point, frt. alld....lb. .20½- —
smaller lots, bbls., same basis, lb. .21 - —
Orange peel, bitter, Haitian, bls..lb. .13 - .14
Sweet, bls. .....lb. .14 - .16
Oregano, Mexican, bgs.....lb. .16 - .16½
Portuguese, bgs., afloat.....lb. .20 - .20½
Spanish, bgs.....lb. .21 - .21½
Orris root, Florentine, bls.....lb. .34 - .35
powdered, bbls., bxs.....lb. .36 - .37
Verona, bls .....lb. .22 - .23
powdered, bbls., bxs.....lb. .24 - .25
Orthoaminobiphenyl dms., c.l., works lb. .24 - —
l.c.l., same basis.....lb. .23½- —
tanks, same basis.....lb. .22 - —
Orthoamylphenol, dms., l.c.l., works. lb. .37 - —
Orthoanisidin, bbls .....lb. .70 - —
Orthochloroanilin, dms., 10,000 lbs. or more..lb. .53 - —
smaller lots.....lb. .55 - .60
Orthochloroparanitroanilin, dms., works. lb. .67½- —
Orthochlorophenol, dms.....lb. .37 - —
Orthocresol, pure, 30° dms., c.l., works..lb. .26½- —
l.c.l., works .....lb. .27 - —
tech., 29°-30°, dms., c.l., works..lb. .25 - —
l.c.l., works .....lb. .26¼- —
Orthodichlorobenzene, dms., c.l., wks., frt. alld. E. of Rockies..lb. .07½- .08
l.c.l., same basis.....lb. .09½- .10½
tanks, same basis.....lb. .07 - —
Orthodichlorobenzene prices W. of Rockies 1c. per lb. higher.
Orthoisopropyl N-phenylcarbamate (see IPC).
Orthonitroaniln, dms.....lb. .43 - .55
Orthonitrochlorobenzene, dms.....lb. .15 - .18
Orthonitrobiphenyl, tech., dms., c.l., works..lb. .12 - —
l.c.l., works .....lb. .13 - —
Orthonitroparachlorophenol, cns....lb. .75 - —
Orthonitrophenol, dms.....lb. .06 - —
Orthonitrotoluene, dms.....lb. .08 - .09
Orthophenetidin, dms.....lb. .90 - —
Orthotolidin, distilled, kgs.....lb. 1.00 - —
Orthotoluidin, dms. .....lb. .18 - .21
Osage orange crystals, bbls.....lb. .32 - —
Extract, No. 1, bbls.....lb. .15 - —
Ouabaine, USP, bots.....gram 3.00 - 4.00
Oxyquinolin sulphate, cns., 100 lbs., works..lb. 6.40 - —
smaller lots, works.....lb. 6.55 - 7.40

P

Papain, powd., cs.....lb. 6.00 - 7.00
Papaverine, natural or synthetic, hydrochloride, NF, cns., 1,000-oz. lots...oz. 6.00 - —
smaller lots .....oz. 6.30 - 6.50
Sulphate, cns.....oz. 7.10 - 7.35
Paprika, Chilean, bgs.....lb. .32 - .33
Portuguese, bgs. .....lb. .40 - .41
Spanish, bgs.....lb. .42½- .43
Para-anisidin, dms., works.....lb. .75 - —
Parachlorophenol, dms., c.l., works..lb. .25 - —
l.c.l., works.....lb. .27½- .29
Parachloroaniln, dms., frt. alld E Miss. lb. .65 - —
Paracresol, 98%, dms., works.....lb. .41 - .65
Paracymene, dms., c.l., works.....lb. .1595- —
l.c.l., works.....lb. .1645- —
tanks, works.....lb. .1545- —
Paradibromobenzene, bgs., 500-lb. lots, works..lb. .45 - —
Paradichlorobenzene, dms., c.l., works, lb. .12½- —
l.c.l., same basis.....lb. .14 - —
Paraffin, crude, scale, white or yellow, 124-126 ASTM, bbls., c.l., refinery..lb. .065 - .09
fully ref'd, slabs, 117-119 ASTM, loose c.l., refy..lb. .65 - —
128-125 ASTM, loose, c.l., refy..lb. .0685- —
125-127 ASTM, loose, c.l., refy..lb. .0715- —
128-130 ASTM, loose, c.l., refy..lb. .0740- —
130-132 ASTM, loose, c.l., refy..lb. .0770- —
133-135 ASTM, loose, c.l., refy..lb. .0795- —
135-137 ASTM, loose, c.l., refy..lb. .0860- —
Prices in bags ½c. lb. higher; l.c.l. prices 1½c. lb. higher.
Paraformaldehyde, dms., 1,000 lbs., works..lb. .21 - —
smaller lots, works .....lb. .22 - —
Paraldehyde, tech., 98%, 55 gals., dms., l.c.l., works..lb. .12½- .28½
5-10-gal. dms., l.c.l., works...lb. .16½- —
tanks, works .....lb. .11 - —
USP, cbys. .....lb. .37 - .40
Paranitroaniln, kgs., works.....lb. .41 - .48
Paranitrochlorobenzene, kgs., works.lb. .15 - —
Paranitrophenol, kgs., works, frt. equald..lb. .35 - —
Paranitrotoluene, kgs., works.....lb. .30 - —
Paraphenylphenol, bgs., works.....lb. .25 - .26
Paraphenylenediamine, tech., kgs., works..lb. 1.25 - —
Para-tertiary-butylphenol, bgs., works. lb. .19 - .20
Paratoluenesulphonamide, bbls., works lb. .70 - —
Paratoluidin, bbls., works.....lb. .46½- .58
Paris green, dealer, distributor, dms., kgs., c.l., works, frt. alld. E. lb. .31 - —
l.c.l., same basis.....lb. .32 - .35
Passion flower herb, bls.....lb. .35 - .40
Patchouli leaves, bls.....lb. .38 - .40
Pectin, citrous, bbls.....lb 1.25 - —
Penicillin, amorph., calcium, bulk, 1,000,000,000 units.. 100,000 units. .14 - —
sodium, bots.....100,000 units. .25 - —
bulk, 1,000,000,000 units..... 100,000 units. .16 - .17
cryst., sodium, bots...100,000 units. .32 - .33
Pennyroyal leaves, bls.....lb. .24 - .25
Pentachlorophenol, dms., works....lb. .20 - .30
Penterythritol, tech., bbls., c.l., works..lb. .32 - —
l.c.l., works.....lb. .34 - .36
Pentane, 28°-38° C., industrial, dms., c.l., group 3..gal. .11 - .14
l.c.l., dms., group 3.....gal. .17 - .30
tanks, group 3.....gal. .07½- .08
Pepper, black, bgs.....lb. .55 - .56
futures, bgs., nearby.....lb. .52 - .53
distant .....lb. .43 - .44
Red, capsicum, Louisiana longs, bgs., shipment point..lb. .18 - .18½
Mississippi sports, bgs., source, lb. .20 - .21½
Mombasa, bgs. .....lb. .40 - .41
Niger, bgs. .....lb. .18 - .18½
birdseye, bgs. .....lb. .36 - .36
Sierra Leone, futures.....lb. .23 - .23½
Chilies, Haitian, bgs.....lb. No stocks
Mexican, long .....lb. No stocks
White, bgs. .....lb. .58 - .59
Peppermint, USP, dom., bls.....lb. .75 - .80
imported, bls.....lb. .80 - .85
Perchloroethylene, dms., c.l., zone 1, works, frt. alld..lb. .10¾- —
zone 2, same basis.....lb. .11¼- —
zone 3, same basis.....lb. .11¾- —
zone 4, same basis.....lb. .11¼- —
l.c.l., zone 1, same basis.....lb. .11½- —
zone 2, same basis.....lb. .12 - —
zone 3, same basis.....lb. .12½- —
zone 4, same basis.....lb. .12 - —
tanks, zone 1, same basis.....lb. .10½- —
zone 2, same basis.....lb. .10¾- —
zone 3, same basis.....lb. .11¼- —
zone 4, same basis.....lb. .10¾- —

Perchloroethylene zones are:—(1) Conn., Del., Ill., Ind., Ia., Ky., Me., Md., Mass., Mich., Minn., Mo., Neb. (Omaha), Kans. (Kansas City), N. J., N. Y., N. C., Ohio, Pa., R. I., Tenn., Vt., Va., W. Va., Wis.; (2) Ala., Ark., Fla., Ga., Kansas, La., Miss., Neb., N. D., Okla., S. C., S. D.; (3) Col., Mont. (E), N. M., Tex., Wyo.; (4) Ariz., Cal., Idaho, Mont. (W), Nev., Ore., Utah, Wash.

"DOC" MacGEE SAYS: They needed some technical assistance . . . in a hurry! It meant a long drive, but the Skellysolve Technical Fieldman was there when the plant opened the next morning, ready to track down the trouble.

The Skellysolve they were using was not the cause of the difficulty; but, using his specialized knowledge, the Skellysolve Technical Fieldman located the trouble and corrected it. He was rendering that well-known "Dependable Skelly Service!"

You may never require such a demonstration of Skelly's willingness to render more-than-ordinary service. Perhaps Skellysolve's purity, uniformity, close boiling ranges, and *dependability of supply* are all that seem important to you now. But there is reassurance in the knowledge that technical assistance is available on call.

Not alone in cases of emergency, either... but whenever you desire the counsel of specialists in solvent problems. Why not discuss your requirements with a Skellysolve man? Write today.

SKELLYSOLVE
In the Ink, Paint, and Drug Field

Skellysolve meets every special naphtha quality needed in this field . . . purity, uniformity, close boiling ranges, low evaporation, etc. That is why you can rely on every Skellysolve. There is one with special qualities for production of paint, varnish, oilcloth, ink, linoleum, and other related products . . . as well as for laboratory use. For instance, there is a full line of V. M. & P. naphthas, mineral spirits, and lacquer diluents, plus other special hydrocarbons. And, for help on your particular problems, remember to use the services of Skellysolve Technical Fieldmen.

SKELLY **Skellysolve**

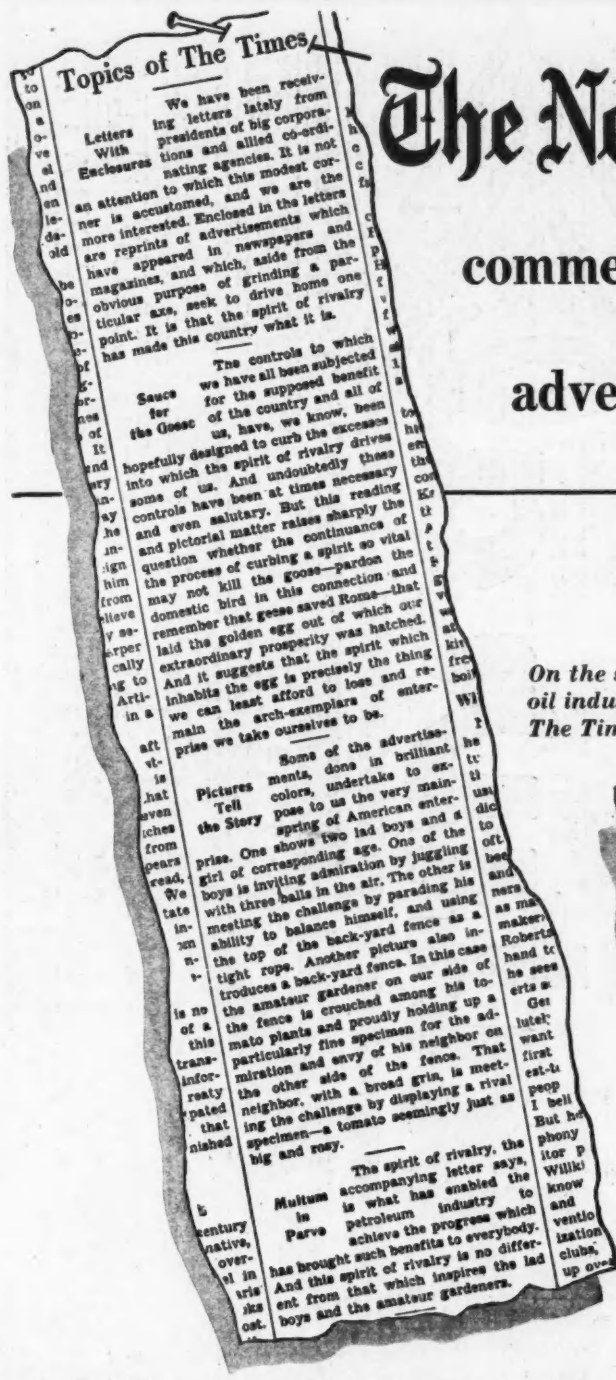
SOLVENTS DIVISION, SKELLY OIL COMPANY, KANSAS CITY, MISSOURI

Peru balsam, dms.	lb.	.85 -	.90
Petrolatum, tech., dark, bbls., c.l., group 3	lb.	.021 -	—
Pennsylvania refy.	lb.	.045 -	—
golden topaz, bbls., c.l.	lb.	.032 -	—
l.c.l.	lb.	.036 -	—
red, veterinary, bbls., c.l.	lb.	.024 -	—
l.c.l.	lb.	.028 -	—
USP, amber, non-ret. dms., c.l.	lb.	.04½-	—
Pennsylvania refy.	lb.	.04⅞-	—
l.c.l.	lb.	.05½-	—
cream, c.l., dms.	lb.	.06½-	—
l.c.l.	lb.	.07½-	.09
extra amber, dms., c.l.	lb.	.04⅞-	—
l.c.l.	lb.	.05¾-	—
white, lily, dms., c.l.	lb.	.06⅜-	.07
l.c.l.	lb.	.08½-	—
snow, dms., c.l.	lb.	.07⅝-	—
Pennsylvania refy.	lb.	.08⅛-	—
l.c.l.	lb.	.09¼-	—
California, refy.	lb.	.11¾-	—
soft, dms., c.l.	lb.	.06¼-	—
Pennsylvania refy.	lb.	.07¼-	—
l.c.l.	lb.	.07¼-	.07½
California, refy.	lb.	.1075-	—
yellow, soft, dms., c.l.	lb.	.04⅝-	—
Pennsylvania refy.	lb.	.04⅞-	—
l.c.l.	lb.	.05⅝-	—
California, refy.	lb.	.08 -	—
Petroleum, crude, bulk, at wells, California	bbl.	1.28 -	2.48
Illinois	bbl.	2.15 -	2.27
Kentucky	bbl.	2.10 -	2.27
Louisiana-Arkansas	bbl.	1.64 -	2.38
Montana	bbl.	2.00 -	2.275
Oklahoma-Kansas	bbl.	1.73 -	2.15
Pennsylvania, lower field	bbl.	3.95 -	4.50
Upper field	bbl.	2.60 -	4.50
Texas, East	bbl.	2.15 -	—
Gulf coast	bbl.	1.88 -	2.38
North, North-Central	bbl.	1.73 -	2.15
Panhandle	bbl.	1.73 -	2.15
West	bbl.	1.60 -	2.02
Wyoming	bbl.	1.40 -	2.15
Ether, laboratory, 30°-60° C, cns., dlvd. E.	gal.	.56 -	—
dms., c.l., group 3	gal.	.17 -	—
l.c.l., same basis	gal.	.30 -	—
35°-60° C, 10-gal. cns., dlvd. E.	gal.	.56 -	—
dms., c.l., Group 3	gal.	.17 -	—
l.c.l., same basis	gal.	.30 -	—
40°-75° C, 10-gal. cns., dlvd. E.	gal.	.56 -	—
dms., c.l., Group 3	gal.	.17 -	—
l.c.l., same basis	gal.	.30 -	—
Fuel oil, bunker C (No. 6), California, heavy, tanks, refinery	bbl.	1.50 -	1.55
light, tanks, refinery	bbl.	1.70 -	1.75
Eastern, tanks, Albany, N. Y.	bbl.	2.72 -	—
Baltimore, Md.	bbl.	2.29 -	2.52
Boston, Mass.	bbl.	2.29½ -	2.56½
Charleston, S. C.	bbl.	2.13 -	—
Jacksonville, Fla.	bbl.	2.08 -	2.18
New York, N. Y.	bbl.	2.22 -	2.52
Norfolk, Va.	bbl.	2.18 -	2.28
Philadelphia, Pa.	bbl.	2.22 -	2.52
Portland, Me.	bbl.	2.26½-	2.56½
Providence, R. I.	bbl.	2.23½-	2.53½
Savannah, Ga.	bbl.	2.13 -	2.23
Oklahoma, tanks, refinery	bbl.	2.00 -	2.40
Diesel, tanks, refinery, California	gal.	.0745-	.0795
Pennsylvania	gal.	.0875-	.1000
Furnace, tanks, refinery, Arkansas, No. 2	gal.	.07625-	—
No. 3	gal.	.07375-	—
Bayonne, N. J., No. 2	gal.	.072 -	—
Group 3, No. 1	gal.	.06875-	.07625
No. 2, straw	gal.	.06625-	.0725
No. 3	gal.	.06875-	.0725
Oklahoma, No. 1, w.w.	gal.	.06875-	.07625
No. 1, straw	gal.	.07375-	.07625
No. 2, straw	gal.	.0662½-	.0825
No. 3	gal.	.07375-	—
range	gal.	.0700-	.0725
Pennsylvania, No. 1	gal.	.0912½-	.10
No. 2	gal	.09 -	.10
No. 3	gal.	.0875-	.0950
Lacquer diluent, California, 100 i.b.p., 200 e.p., tanks, dlvd. Los Angeles	gal.	.118 -	—
Portland, Ore.	gal.	.128 -	—
San Francisco	gal.	.11½-	—
Seattle, Wash.	gal.	.128 -	—
East coast, tanks, N. J. and N. Y. refinery	gal.	.14 -	—
Group 3, benzol-type, tanks, refinery	gal.	.0987½-	.1062½
toluol-type, tanks, refinery	gal.	.0937½-	.1012½
Mineral spirits, California, tanks, San Francisco, 170-250 b.r.	gal.	.123 -	—
205-290 b.r.	gal.	.123 -	—
244-362 b.r.	gal.	.123 -	—
307-360 b.r.	gal.	.113 -	—
312-402 b.r.	gal.	.113 -	—
362-458 b.r.	gal.	.113 -	—
East coast, tanks, N. J., N. Y. refinery	gal.	.13½-	—
Group 3, tanks, refinery	gal.	.0837½-	.0862½
Gulf coast, tanks, refinery	gal.	.0875-	—
tankwagon, Baltimore	gal.	.16 -	—
Boston	gal.	.14½-	—
Buffalo	gal.	.15 -	—
Camden, N. J.	gal.	.13½-	—
Chicago	gal.	.169 -	—
Detroit	gal.	.192 -	—
Kansas City, Mo.	gal.	.165 -	—
Lancaster, Pa.	gal.	.145 -	—
Newark	gal.	.135 -	—
New York	gal.	.135 -	—
Philadelphia	gal.	.135 -	—
Pittsburgh	gal.	.15 -	—
Providence	gal.	.15 -	—
Rochester	gal.	.16 -	—
St. Louis	gal.	.171 -	—
Syracuse	gal.	.17 -	—
Washington, D. C.	gal.	.16 -	—
Naphtha, cleaners, California, tanks, San Francisco	gal.	.123 -	—
East coast, tanks, N. J., N. Y., refinery	gal.	.12½	.13
tankwagon Newark	gal.	.12½-	—
Chicago	gal.	.14¼-	—
Detroit	gal.	.15½-	—
New York	gal.	.12 -	.13
Philadelphia	gal.	.125 -	—
Group 3, tanks	gal.	.09375-	.10175
tankwagons, St. Louis	gal.	.1470-	—
High-flash, 140° F, group 3 refinery, tanks	gal.	.13 -	.13½
High-solvency, tanks, refinery, N. J., 200-285 b.r., 37-38° C., mixed anilin pt.	gal.	.18 -	.18½
26°C m.a.p.	gal.	.20 -	—
270-370 b.r., 78-81 m.a.p.	gal.	.21 -	—
13°C m.a.p.	gal.	.23 -	—
305-400 b.r., 26-30°C m.a.p.	gal.	.21¼	21½
340-440 b.r., 32°C m.a.p.	gal.	.21½-	—
26°C m.a.p.	gal.	.25½-	—
V.M.&P., at refinery, California, 46.5, 254-380 b.r., tanks, El Segundo	gal.	.12 -	—
Richmond	gal.	.12½-	—
Portland, Ore., Seattle, Wash.	gal.	.12 -	—
64-77, 190-316 b.r., tanks, Los Angeles	gal.	.11 -	—
San Francisco	gal.	.11½-	—
Portland, Seattle	gal.	.12 -	—
Petroleum naphtha, VM&P, at ref'y, East coast, N. J., N. Y., tanks	gal.	.15 -	.16
Group 3, tanks	gal.	.09375-	.10375
Gulf coast, tanks, New Orleans	gal.	.10 -	—
tankwagon, Boston	gal.	.155 -	.16
Chicago	gal.	.172 -	—
Detroit	gal.	.184 -	—
Milwaukee	gal.	.188 -	—
Minneapolis	gal.	.177 -	—
Newark	gal.	.15 -	—
New York	gal.	.145 -	—
Philadelphia	gal.	.15 -	—
Pittsburgh	gal.	.16 -	—
St. Louis	gal.	.181 -	—
Solvent, rubber, at refinery California, tanks, San Francisco	gal.	11½-	—
East coast, N. J., N. Y., tanks	gal.	.13½-	—
Group 3, tanks	gal.	.0887½-	.0912½
Stoddard (C.S. 8-38), at refinery, California tanks, San Francisco	gal.	.12 -	—
East coast, N. J., N. Y., tanks	gal.	.13½-	—
Group 3, tanks	gal.	.08875-	.09875
Pennsylvania, western, tanks	gal.	.0975-	.10
tankwagon, Boston	gal.	.14 -	—
Chicago	gal.	.15½-	—
Detroit	gal.	.17½-	—
Milwaukee	gal.	.16½-	—
Minneapolis	gal.	.164 -	—
Newark	gal.	.13½-	—
New York	gal.	.13½-	—
Philadelphia	gal.	.13½-	—
Pittsburgh	gal.	.15 -	—
St. Louis	gal.	.17 -	—
Syracuse	gal.	.17 -	—
Petroleum sulphonate, 70% sulphonic content, ret. dms., c.l., works	lb.	.134 -	—
l.c.l., works	lb.	.144 -	—
content, ret. dms., tanks, works	lb.	.124 -	—
60% sulphonic content, ret. dms., c.l., works	lb.	.1065-	.1075
l.c.l., works	lb.	.1100-	.1165
tanks, works	lb.	.0965-	.0975
Phenobarbital, dms., 100 lbs.	lb.	3 50 -	4 50
Phenol, 90-92% (cresol, 8-10%), dms., c.l., works, frt. equald.	lb.	.12 -	.12¾
l.c.l., same basis	lb.	.12¾-	.13¼
tanks, same basis	lb.	.11 -	.11¼
82-84% (cresol, 16-18%), dms., c.l., same basis	lb.	.12½-	.13
l.c.l., same basis	lb.	.13¼-	.13½
tanks, same basis	lb.	.11½-	.12
USP, dms., c.l., same basis	lb.	.11½-	.12¼
l.c.l., same basis	lb.	.12¼-	.13
tanks, same basis	lb.	.10½-	.11½
Phenolphthalein, USP, bbls., dms., 2,000 lbs.	lb.	.85 -	—
smaller lots	lb.	.87 -	.92
yellow, fib. dms., 2,000 lbs.	lb	.85 -	—
smaller lots	lb.	.87 -	92
Phenothiazin, NF, fib. dms., tan lots, works	lb.	.49 -	—
smaller lots, works	lb.	.54 -	—
Phenylacetaldehyde solution, 50%, bots.	lb.	2.35 -	2.75
pure, bots.	lb.	4 00 -	5.15
Phenyl acetate, dms., 100-lb. lots, works	lb.	.50 -	—
Phenyldiethanolamine, dms., works	lb.	.33 -	.34
Phenylethyl acetate, dms.	lb.	2.15 -	2.70
Phenylethylphenyl acetate, bots.	lb.	4.50 -	6.00
Phenylhydrazin base, CP, bots.	lb.	4.55 -	—
Hydrochloride, CP, bots., works	lb.	7.10 -	—
commercial, kgs., works	lb.	1.75 -	—
Phloroglucinol, CP, fib. dms.	lb.	13.75 -	—
tech., fib. dms.	lb.	10.00 -	—
Phosgene, 150 lb. cyls., works	lb.	.20½-	.35
10-lb. cyls., works	lb.	1.00 -	—
Phosphate, defluorinated (see under D.).			
Phosphate rock, Florida, land pebble, run-of-mine, washed, dried, ungrind, 68-66%, b.p.l., bulk, c.l., car at mine	long ton.	3.34 -	3.49
70%-68%, b.p.l., c.l., same basis	long ton.	3.74 -	3.89
72%-70%, b.p.l., c.l., same basis	long ton.	4.34 -	4.49
75%-74%, b.p.l., same basis, long ton.	long ton.	5.34 -	5.49
77%-76%, b.p.l., c.l., same basis	long ton.	6.34 -	6.49

Prices for Florida phosphate rock are plus usual bonus penalty clause on oil and labor. Prices on entirely pebble 50c. per long ton higher than above quotations.

finely ground 65.5% b.p.l., basis 30% P_2O_5 minimum	short ton.	5.00 -	—
68%, b.p.l., basis 31% P_2O_5 minimum	short ton.	5.20 -	—
70%, b.p.l., basis 32% P_2O_5 minimum	short ton.	5.55 -	—

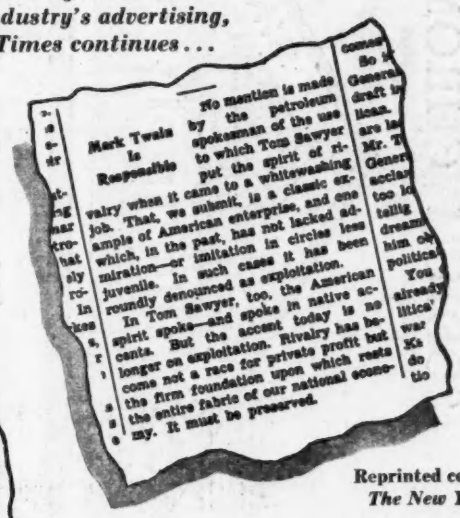
Peru Balsam—Phosphate Rock, Florida


Topics of The Times
Letters With Enclosures
We have been receiving letters lately from presidents of big corporations and allied co-ordinating agencies. It is not an attention to which this modest corner is accustomed, and we are the more interested. Enclosed in the letters are reprints of advertisements which have appeared in newspapers and magazines, and which, aside from the obvious purpose of grinding a particular axe, seek to drive home one point. It is that the spirit of rivalry has made this country what it is.
Sauce for the Geese
The controls to which we have all been subjected for the supposed benefit of the country and all of us, have, we know, been hopefully designed to curb the excesses into which the spirit of rivalry drives some of us. And undoubtedly these controls have been at times necessary and even salutary. But this reading and pictorial matter raises sharply the question whether the continuance of the process of curbing a spirit so vital may not kill the goose—pardon the domestic bird in this connection—and remember that geese saved Rome—that laid the golden egg out of which our extraordinary prosperity was hatched. And it suggests that the spirit which inhabits the egg is precisely the thing we can least afford to lose and remain the arch-exemplars of enterprise we take ourselves to be.
Pictures Tell the Story
Some of the advertisements, done in brilliant colors, undertake to expose to us the very mainspring of American enterprise. One shows two lad boys and a girl of corresponding age. One of the boys is inviting admiration by juggling with three balls in the air. The other is meeting the challenge by parading his ability to balance himself, and using the top of the back-yard fence as a tight rope. Another picture also introduces a back-yard fence. In this case the amateur gardener on our side of the fence is crouched among his tomato plants and proudly holding up a particularly fine specimen for the admiration and envy of his neighbor on the other side of the fence. That neighbor, with a broad grin, is meeting the challenge by displaying a rival specimen—a tomato seemingly just as big and rosy.
Multum in Parvo
The spirit of rivalry, the accompanying letter says, is what has enabled the petroleum industry to achieve the progress which has brought such benefits to everybody. And this spirit of rivalry is no different from that which inspires the lad boys and the amateur gardeners.

The New York Times

comments on Petroleum's new advertising campaign

On the subject of the oil industry's advertising, The Times continues...


Mark Twain Is Responsible
No mention is made by the petroleum spokesman of the use to which Tom Sawyer put the spirit of rivalry when it came to a whitewashing job. That, we submit, is a classic example of American enterprise, and one which, in the past, has not lacked admiration—or imitation in circles less juvenile. In such cases it has been roundly denounced as exploitation.
In Tom Sawyer, too, the American spirit spoke—and spoke in native accents. But the accent today is no longer on exploitation. Rivalry has become not a race for private profit but the firm foundation upon which rests the entire fabric of our national economy. It must be preserved.

Reprinted courtesy of *The New York Times*

Put this campaign to work for YOU

● Petroleum's informative and dramatic national campaign in LIFE, LOOK, COLLIER'S and SATURDAY EVENING POST can go to work directly for *you*. Each ad can tell your local audience important facts about your branch of the business. All you have to do is personalize these ads over your own company's signature. A FREE Plan Book has been prepared to make this tie-in practical and easy for you.

Just Mail the Coupon

... to get a complete promotion portfolio. This detailed Plan Book offers FREE mats of seven complete and different newspaper campaigns, plus display material, radio scripts, envelopes, enclosures – the complete promotion picture for *your* firm.

DON'T DELAY—ACT NOW

Send for your free Plan Book at once. Available to managers and officers of all oil companies, oil associations and affiliated organizations.

Mail this coupon today.

Public Relations Operating Committee, Dept. 18 F
AMERICAN PETROLEUM INSTITUTE
670 Fifth Avenue, New York 19, N. Y.
Please forward at once FREE copy of Plan Book.

Name .....
Title .....
Company .....
Address .....
City ..... *State* .....

SODIUM BICHROMATE

SODIUM CHROMATE

POTASSIUM BICHROMATE

SOLE MFRS. SINCE 1909

BICHROMATE

Natural

OF SODA

NATURAL PRODUCTS REFINING CO. JERSEY CITY, NEW JERSEY.

SODIUM SULPHATE

ALUMINUM HYDRATE

Phosphate Rock, Tennessee—Pyroxylin Shavings

Phosphate rock, Tennessee, brown, run-of-mine, unground, 70-68%
b.p.l., 6½% I. & n., same basis,
long ton, 5.50 - —
72%-70%, b.p.l., 6½% I. & n.,
long ton, 6.00 - —
70% P_2O_5 same basis, c.l.,
long ton, 6.15 - —
80% P_2O_5 same basis, c.l.,
long ton, 6.85 - —
81% P_2O_5 same basis,
short ton, 5.40 - —
82% P_2O_5 same basis,
short ton, 5.70 - —
85% P_2O_5 same basis,
short ton, 6.30 - —
Phosphorus, red amorphous, cs.,
short ton, 83 - .38
tins, export, cs., lb. .40 - .46
Yellow, cns., lb. .25 - .27
dms., c.l., lb. .22 - —
Oxychloride, dms., works, lb. .10¾ - .13¾
Pentoxide, dms., c.l., works, lb. .12 - .14
Sesquisulphide, tins, cs., works, lb. .26 - .27
Trichloride, dms., c.l., works, lb. .10¾ - —
c.l., works, lb. 12¾ - .13¾
Phthalamide, bbls., works, lb. .35 - .40
kgs., works, lb. .45 - .50
Phthalic anhydride, bgs., lb. .17½ - —
c.l., works, frt. equald., lb. .15½ - —
c.l., same basis, lb. .13½ - —
Pacific Coast, olvd., lb. .21¼ - .04
Picbi leaves, bgs., lb. .07 - —
Picoline (see Alphapicoline and Beta-picoline).
Picrotoxin, bots., oz. 6.00 - —
Pilocarpine hydrochloride, USP, bots., oz. 6.50 - 7.50
vials, oz. 6.25 - 7.25
Potash, caustic, low-chloride, drums, 90.92% K_2O, c.l., works, 100 lbs. 10.25 - —
Liquid, drums, c.l., works, 100 lbs. 9.00 - —
Liquid, drums, c.l., works, 100 lbs. 9.75 - —
tanks, works, 100 lbs. 8.25 - —
solid, 90%, drums, c.l., works, 100 lbs. 9.00 - —
c.l., works, 100 lbs. 9.75 - —
regular, flake, 88-92%, drums, c.l., works, lb. .0725- —
c.l., works, lb. .0800- —
liquid, 45% basis, drums, c.l., works, lb. .03375- —
c.l., same basis, works, lb. .0350- —
tanks, same basis, lb. .0315- —
solid, 88-92%, drums, c.l., works, lb. .0714- —
c.l., lb. .06 - —
Potassium abietate, lb. .26 - .30
Acetate, USP, drums, lb. .20 - .22
Bicarbonate, USP, gran., drums, lb. .20 - .22
powd., drums, lb. .22 - .24
Bichromate, bgs., c.l., works, lb. .11½ - —
c.l., works, lb. .11¾ - .11¾
Borate, gran., bbls., c.l., works, ton 200.00 - —
ton lots, works, ton 218.50 - —
less ton lots works, ton 228.50 - —
Bromide, USP, cryst., gran., bbls., c.l., lb. .28 - —
kgs., lb. .30 - —
Carbonate, tech., calcined, bbls., c.l., works, lb. .07½ - —
c.l., same basis, lb. .08 - —
hydrated, 83-85%, bbls., c.l., works, lb. .06 - —
drums, L.c.l., works, lb. .06¼ - —
USP, gran., bbls., drums, lb. .14 - .19
powd., bbls., drums, lb. .20 - .28
Chromate, tech., kgs., lb. .25 - .30
Cyanide, fine, white, bbls., c.l., works, lb. .32½ - —
c.l., same basis, lb. .34 - —
Ferricyanide, bbls., c.l., works, lb. .25 - —
Ferrocyanide, yellow, bbls., c.l., works, lb. .09½ - —
Fluoride, bbls., c.l., works, lb. .09 - —
Hydrate, 88-92% K_2O, bbls., c.l., works, lb. .07½ - —
Hydroxide, 88-92% K_2O, bbls., c.l., works, lb. .07½ - —
Iodide, USP, bbls., c.l., works, lb. .60 - —
Manganate, tech., bbls., c.l., works, lb. .28 - —
Metabisulphite, bbls., c.l., works, lb. .20 - .22
Muriate (see Potash, caustic).
Nitrate, bbls., c.l., works, lb. .06 - —
Oxalate, bbls., c.l., works, lb. .15 - —
Perchlorate, bbls., works, lb. .08 - —
Permanganate, USP, bbls., works, lb. .09½ - —
Persulphate, bbls., works, lb. .20 - —
Phosphate, tribasic, bbls., works, lb. .13 - —
Prussiate, red, kgs., lb. .55 - —
Yellow, bbls., works, lb. .13 - —
Silicofluoride, tech., bbls., works, lb. .15 - —
Silicon alloy, bgs., c.l., works, ton 200.00 - —
Sulphate (see Saltpeter).
Tartrate, neutral, tech., bbls., lb. .24 - —
Potassium chlorate, cryst., kgs., c.l., works, lb. .09½- —
powd., works, lb. .09½- —
powd., dms., kgs., c.l., works, lb. .09½- —
c.l., works, 1 to 10 tons, lb. .09½- —
export, kgs., lb. .12 - —
Chloride, tech., cryst., bgs., lb. .06 - Nom.
Citrate, USP, gran., bbls., dms., lb. .35½- .40½
Cyanide, tetrabasic, USP, powd., 96-98%, bbls., lb. .55 - .64
Fluoride, bbls., works, lb. .34 - .40
Glycerophosphate, 78% solution, cbys., lb. 2.20 - 2.50
Guaiacolsulphonate, NF, dms., lb. 1.80 - 1.85
Hydroxide, tech. (see Potash, caustic).
Iodide, USP, bbls., cs., lb. .72 - .75
Manure salt, 25% K_2O, bulk, mines, unit-ton, .21 - —
25% K_2O, bulk, mines, unit-ton, .21 - .24
Metabisulphite, gran., bbls., lb. .19 - .21
powd., bbls., 50% K_2O, bulk, works, lb. .25 - —
Muriate, dom., bbl., 80% K_2O, bulk, N. Y., unit-ton, .37½- —
Tonn. Calif., N. M., unit-ton, .45½- —
Nitrate (see Saltpeter).
Oxalate, neutral, tech., bbls., dms., lb. .24 - —
Perchlorate, kgs., works, lb. .09 - .14
Permanganate, tech., dms., works, lb. .22½- .24½
Persulphate, tech., c.l., works, lb. .20 - —
Phosphate, tribasic, bbls., works, lb. .13 - .18½
Prussiate, red, kgs., lb. .55 - .60
Yellow, bbls., works, lb. .13 - .16
Silicofluoride, tech., bbls., works, lb. .15 - —
Sulphate, NF, cryst., bbls., works, lb. .14½- .17
tech., dom., bulk, basis 90-95%, Atlantic or Gulf ports, ton 36.25 - —
West coast ports, ton 39.25 - —
Sulphocyanide, cryst., N.F., dms., lb. .62 - .70
Thiocyanate (see sulphocyanide).
Titanate, cms., c.l., works, lb. .12 - —
5 tons, works, lb. .12½- —
2,000 lbs. and less, works, lb. .12 - .13
Xanthate, dms., c.l., works, lb. .12½- —
Potassium-magnesium sulphate, bulk, 18-20% K_2O, 9-10% MgO, ex mine, 40% K_2SO_4, vessel, ton 36.00 - —
Potassium-sodium ferricyanide, bgs., lb. .45 - .49
Potassium-sodium tartrate (see Rochelle salt).
Potassium-titanium oxalate, bbls., dms., lb. .50 - .55
Prickly ash bark, bls., lb. .33 - .34
Berries, bgs., lb. .20 - .21
Princess pine herb, bls., lb. .55 - .60
Procaine hydrochloride, cns., lots, lb. 4.50 - 5.50
smaller lots, lb. 4.75 - 5.50
Propane, commercial grade, tanks, gal. .04 - .05
Propionaldehyde, dms., works, lb. .16½- —
c.l., works, lb. .17 - —
tanks, works, lb. .15 - —
Propyl aldehyde (see Propionaldehyde).
Propylene dichloride, dms., c.l., lb. .09½- —
c.l., dichloride, dms., c.l., lb. .09½- —
tanks, c.l., lb. .08½- —
smaller containers, lb. .12½- —
Oxide, c.l., frt. equald., lb. .07 - —
tanks, frt. equald., lb. .19 - —
Propylenediol, dms., c.l., frt. equald., lb. .20 - .21
Propylenglycol, dms., c.l., frt. equald., lb. .17½- —
c.l., same basis, lb. .16½- —
tanks, same basis, lb. .14½- —
Propylthiouracil, bots., works, lb. 50.00 - —
Psyllium seed (see Fleawort).
Pumice, dom., grd., coarse, 0% I. lb., ton, ton lots, works, .03½- .04
Chicago, ton lots, .04½- —
fine, bgs., ton lots, .05½- .06
smaller lots, .05½- .06
Marian, silk-screen, fine, bgs., lots, lb. .04 - —
lots, lb. .04½- —
coarse, bgs., ton lots, .03½- —
coarse, bgs., less ton lots, .04½- —
ground, bgs., ton lots, .03½- —
less ton lots, .04½- —
Pumice in bbls., 5c to 5½c per lb. higher.
Pumpkin seed bgs., lb. .27 - .30
Purple lake (see Red).
Pyrethrum concentrate, dewaxed, 30%; 2 or more times normal, dms., works, lb. 9.25 - 9.30
Normal, 20% to 24% pyrethrins per 100cc., colorless
regular base, dms., works, gal. 6.25 - —
(30 to 1), base & grease pyrethrins, per 100 cc., colorless base, bbls., works, gal. 9.30 - —
Flowers, fine grd., bbls., works, lb. .30 - —
powder, 1.5% pyrethrins, bbls., works, lb. .42 - —
Pyridine, denaturing, ref., dms., works, frt. equald., gal. 1.55 - 1.90
ref., 2, ref. dms., same basis, lb. .60 - .65
Pyridoxin hydrochloride, 100-gram kits, 50.00 - —
Pyrites, Spanish, c.i.f. Atl. ports, long-ton 8.00 -10.00
Pyrocatechin (see Catechol).
Pyronate, dms., c.l., dlvd. E. of Miss., gal. .70 - —
c.l., works, gal. .60 - —
tanks, dlvd. E. of Miss., gal. .60 - —
Pyronate prices W. of Miss., 3c per gal. higher.
Pyrophyllite, standard, 200 mesh, bulk, c.l., mines, ton 11.00 - 11.50
325 mesh, bulk, c.l., mines, ton 14.00 - —
No. 3, 200 mesh, bulk, c.l., mines, ton, 9.50 - —
insecticide grade, 200 mesh, bulk, c.l., mines, ton, 9.00 -10.00
rubber grade, 140 mesh, bulk, c.l., mines, ton, 7.00 - —
250 mesh, bulk, c.l., mines, ton, 12.00 - —
Pyroxylin scrap, opaque, amber, cs., lb. $1.50-$2.50 per ton extra.
Pyroxylin scrap, opaque, amber, cs., lb. .17 - —
black, cs., works, lb. .14 - —
gray, cs., works, lb. .14 - —
mixed, mottled, cs., works, lb. .12 - —
white, chips, cs., works, lb. .17 - —
dense, cs., works, lb. .17 - —
transparent, pastes, cs., works, lb. .17 - —
transparent, colorless, cs., works, lb. .19 - —
colors, cs., works, lb. .17 - —
shavings, opaque, amber, cs., works, lb. .16 - —
mixed colors, cs., works, lb. .14 - —
white, cs., works, lb. .17 - —
Potassium chlorate, cryst., kgs., c.l., works, lb. .09½- —
powd., works, lb. .09½- —
powd., dms., kgs., c.l., works, lb. .09½- —
c.l., works, 1 to 10 tons, ex white, lb. .12 - —
Chloride, tech., cryst., bgs., kgs., lb. .06 - Nom.
Citrate, USP, gran., bbls., dms., lb. .35½- .40½
Cyanide, tetrabasic, USP, powd., 96-98%, bbls., lb. .55 - .64
Fluoride, bbls., works, lb. .34 - .40
Glycerophosphate, 78% solution, cbys., lb. 2.20 - 2.50
Guaiacolsulphonate, NF, dms., lb. 1.80 - 1.85
Hydroxide, tech. (see Potash, caustic).
Iodide, USP, bbls., cs., lb. .72 - .75
Manure salt, 25% K_2O, bulk, mines, unit-ton, .21 - —
25% K_2O, bulk, mines, unit-ton, .21 - .24
Metabisulphite, gran., bbls., lb. .19 - .21
powd., bbls., 50% K_2O, bulk, works, lb. .25 - —
Muriate, dom., bbl., 80% K_2O, bulk, N. Y., unit-ton, .37½- —
Tonn. Calif., N. M., unit-ton, .45½- —
Nitrate (see Saltpeter).
Oxalate, neutral, tech., bbls., dms., lb. .24 - —
Perchlorate, kgs., works, lb. .09 - .14
Permanganate, tech., dms., works, lb. .22½- .24½
Persulphate, tech., c.l., works, lb. .20 - —
Phosphate, tribasic, bbls., works, lb. .13 - .18½
Prussiate, red, kgs., lb. .55 - .60
Yellow, bbls., works, lb. .13 - .16
Silicofluoride, tech., bbls., works, lb. .15 - —
Sulphate, NF, cryst., bbls., works, lb. .14½- .17
tech., dom., bulk, basis 90-95%, Atlantic or Gulf ports, ton 36.25 - —
West coast ports, ton 39.25 - —
Sulphocyanide, cryst., N.F., dms., lb. .62 - .70
Thiocyanate (see sulphocyanide).
Titanate, cms., c.l., works, lb. .12 - —
5 tons, works, lb. .12½- —
2,000 lbs. and less, works, lb. .12 - .13
Xanthate, dms., c.l., works, lb. .12½- —
Potassium-magnesium sulphate, bulk, 18-20% K_2O, 9-10% MgO, ex mine, 40% K_2SO_4, vessel, ton 36.00 - —
Potassium-sodium ferricyanide, bgs., lb. .45 - .49
Potassium-sodium tartrate (see Rochelle salt).
Potassium-titanium oxalate, bbls., dms., lb. .50 - .55
Prickly ash bark, bls., lb. .33 - .34
Berries, bgs., lb. .20 - .21
Princess pine herb, bls., lb. .55 - .60
Procaine hydrochloride, cns., lots, lb. 4.50 - 5.50
smaller lots, lb. 4.75 - 5.50
Propane, commercial grade, tanks, gal. .04 - .05
Propionaldehyde, dms., works, lb. .16½- —
c.l., works, lb. .17 - —
tanks, works, lb. .15 - —
Propyl aldehyde (see Propionaldehyde).
Propylene dichloride, dms., c.l., lb. .09½- —
c.l., dichloride, dms., c.l., lb. .09½- —
tanks, c.l., lb. .08½- —
smaller containers, lb. .12½- —
Oxide, c.l., frt. equald., lb. .07 - —
tanks, frt. equald., lb. .19 - —
Propyleneglycol, dms., c.l., frt. equald., lb. .20 - .21
tanks, same basis, lb. .17½- —
Propylthiouracil, bots., works, lb. .16 - —
Psyllium seed (see Fleawort).
Pumice, dom., grd., coarse, 0% I. lb., ton, ton lots, works, .03½- .04
Chicago, ton lots, .04½- —
fine, bgs., ton lots, .05½- .06
smaller lots, .05½- .06
Marian, silk-screen, fine, bgs., lots, lb. .04 - —
lots, lb. .04½- —
coarse, bgs., ton lots, .03½- —
coarse, bgs., less ton lots, .04½- —
ground, bgs., ton lots, .03½- —
less ton lots, .04½- —
Pumice in bbls., 5c to 5½c per lb. higher.
Pumpkin seed bgs., lb. .27 - .30
Purple lake (see Red).
Pyrethrum concentrate, dewaxed, 30%; 2 or more times normal, dms., works, lb. 9.25 - 9.30
Normal, 20% to 24% pyrethrins per 100cc., colorless
regular base, dms., works, gal. 6.25 - —
(30 to 1), base & grease pyrethrins, per 100 cc., colorless base, bbls., works, gal. 9.30 - —
Flowers, fine grd., bbls., works, lb. .30 - —
powder, 1.5% pyrethrins, bbls., works, lb. .42 - —
Pyridine, denaturing, ref., dms., works, frt. equald., gal. 1.55 - 1.90
ref., 2, ref. dms., same basis, lb. .60 - .65
Pyridoxin hydrochloride, 100-gram kits, 50.00 - —
Pyrites, Spanish, c.i.f. Atl. ports, long-ton 8.00 -10.00
Pyrocatechin (see Catechol).
Pyronate, dms., c.l., dlvd. E. of Miss., gal. .70 - —
c.l., works, gal. .60 - —
tanks, dlvd. E. of Miss., gal. .60 - —
Pyronate prices W. of Miss., 3c per gal. higher.
Pyrophyllite, standard, 200 mesh, bulk, c.l., mines, ton 11.00 - 11.50
325 mesh, bulk, c.l., mines, ton 14.00 - —
No. 3, 200 mesh, bulk, c.l., mines, ton, 9.50 - —
insecticide grade, 200 mesh, bulk, c.l., mines, ton, 9.00 -10.00
rubber grade, 140 mesh, bulk, c.l., mines, ton, 7.00 - —
250 mesh, bulk, c.l., mines, ton, 12.00 - —
Pyroxylin scrap, opaque, amber, cs., lb. $1.50-$2.50 per ton extra.
Pyroxylin scrap, opaque, amber, cs., lb. .17 - —
black, cs., works, lb. .14 - —
gray, cs., works, lb. .14 - —
mixed, mottled, cs., works, lb. .12 - —
white, chips, cs., works, lb. .17 - —
dense, cs., works, lb. .17 - —
transparent, pastes, cs., works, lb. .17 - —
transparent, colorless, cs., works, lb. .19 - —
colors, cs., works, lb. .17 - —
shavings, opaque, amber, cs., works, lb. .16 - —
mixed colors, cs., works, lb. .14 - —
white, cs., works, lb. .17 - —

Rhamnus purshiana (see Cascara Sagrada).
Rhatany root, bls., lb. .30 - .35
Ribbon (see Tape).
Ricinoleic acid, bbls., works, lb. .15½- —
Rochelle salt, gran., bbls., works, lb. .19 - .21

Q

Quassia chips, bls.	lb.	.07 - .09
Quebracho extract, clarified, grd., 70% tannin, bgs., c.l.	lb.	.13½- —
liq., 35% tannin, bbls., works	lb.	.0635- —
tanks, same basis	lb.	06 - —
powd., 70% tannin, bgs., c.l.	lb.	.14½- —
ordinary, lump, 63% tannin, bgs., c.l., ex dock, duty extra	lb.	.0821- .0850
Quebracho extract prices are based on freight and $1 insurance per long ton.		
Queen of the meadow root bgs.	lb.	.12 - .13
Quercitron crystals bbls.	lb.	.32 - —
Extract, No. 1, bbls.	lb.	.14 - —
solid, bxs.	lb.	.27 - —
Quicksilver, flasks (76 lbs. net)	flask.	$1.00 -82.00
Quince seed, bgs.	lb.	1.20 - 1.80
Quinidine, NF, V, cryst., cns.	oz.	No stocks
powd., precip., cns.	oz.	No stocks
Sulphate, USP, cns.	oz.	.95 - 1.15
Quinine, NF, cns., 100 ozs.	oz.	.97½- —
Acetate, cns., 100 ozs.	oz.	No stocks
Arsenate, cns., 100 ozs.	oz.	No stocks
Arsenite, cns., 100 ozs.	oz.	No stocks
Bisulphate, USP, cns., 100 ozs.	oz.	.73½- —
Citrate, cns., 100 ozs.	oz.	No stocks
Dihydrobromide, bots., 50 ozs.	oz.	No stocks
Dihydrochloride, USP	oz.	.93½- —
Ethylcarbonate, NF, cns., 100 ozs.	oz.	No stocks
Ferrocyanide, cns., 100 ozs.	oz.	No stocks
Formate, cns., 100 ozs.	oz.	No stocks
Hydrobromide, NF, cns., 50-oz. cans, c.l.	oz.	.89½- —
Hydrochloride, USP, cns., 100 ozs.	oz.	.89½- —
Hydrochlorosulphate, cns., 100 ozs	oz.	No stocks
Hydriodide, cns., 100 ozs.	oz.	No stocks
Hypophosphite, cns., 100 ozs.	oz.	No stocks
Phosphate, NF, cns., 100 ozs.	oz.	1.10 - —
Salicylate, NF, cns., 100 ozs.	oz.	.95 - —
Sulphate, USP, cns., 100 ozs.	oz.	.89½- —
Sulphosalicylate, cns., 100 ozs.	oz.	No stocks
Tannate, USP X, cns., 100 ozs.	oz.	No stocks
Tartrate, cns., 100 ozs.	oz.	No stocks
Valerate, NF IV, 100 ozs.	oz.	No stocks
Quinine-urea hydrochloride, NF, cns.	oz.	.94½- —
Quinolin, dms., c.l., works	lb.	.32 - .50

R

R salt, dry, bbls.	lb.	.61 - .72
paste, dms.	lb.	.57 - —
Red, alizarin lake, bbls., divd. N. of Tenn. and N. C., E. of Miss., including St. Paul, Minneapolis, Davenport, Rock Island, St. Louis.	lb.	1.45 - 2.25
Prices ½c. per lb. higher divd. Ala., Fla., Ga., La. (Shreveport, 1½c.), Miss., N. C., S. C., Tenn., Tex. (Dallas, Ft. Worth, 1½c.), (El Paso, 2c.), Cedar Rapids, Des Moines, Kansas City, Lincoln, Omaha, St. Joseph, 1.6c. per lb. higher, divd. Pacific coast prices equaled with Chicago, divd. Denver, Pueblo, Salt Lake City, Wichita.		
Cadmium lithopone, deep shade, bbls., frt. alld. E. of Rockies.	lb.	1.25 - —
light shade, bbls., same basis.	lb.	1.10 - —
Maroon, bbls., same basis.	lb.	1.35 - 1.45
medium shade, bbls., same basis.	lb.	1.20 - —
medium-light shade, bbls., same basis.	lb.	1.15 - —
orange-red, bbls., same basis.	lb.	1.05 - —
Red cadmium lithopone, all shades, in smaller pkgs. 5c. per lb. higher; all prices are 1c. per lb. higher ex whse., Los Angeles and San Francisco.		
Carmine, No. 40, dms., works.	lb.	5.50 - 5.65
smaller containers, works.	lb.	6.10 - 6.16
Crocus martis (see Red, purple, oxide).		
Dyes (see Dyes, coaltar).		
Eosin toner, bbls., works.	lb.	1.33 - —
Indian, dom., pure, bgs., Bethlehem, Easton, E. St. Louis, N. Y.	lb.	.10 - .10¾
English, all shades.	lb.	.16 - —
Iron oxide, synth., bbls.	lb.	.10½- .10¾
reduced, 85% copperas oxide, bbls., l.c.l., Bethlehem, Pa., Copley, O., Easton, Pa., E. St. Louis, and Trenton, N. J.	lb.	08¾- —
80% copperas oxide, bbls., same basis.	lb.	.085 - .094
Lake C toner, alizarin, bbls., works	lb.	1.05 - —
Lithol toner, bbls., works.	lb.	.75 - .77
Lithol-rubin toner, alizarin lake, bbls., works.	lb.	1.30 - —
Maroon, alizarin lake, 25%, bgs., works.	lb.	.40 - .43
toner, bbls., works.	lb.	1.35 - 1.50
Cadmium, deep, bbls., works.	lb.	1.20 - —
regular, bbls., works.	lb.	1.10 - —
MNPT toner, kgs., works.	lb.	3.25 - —
Maroons in smaller pkgs., 5c. per lb higher.		
Mercury oxide, tech., bbls., 10,000 lbs., works.	lb.	2.30 - —
smaller lots, works.	lb.	2.32 - —
Metallic, bbls., works.	lb.	.02½- .02¾
Oxide (see Red, iron oxide).		
Oxide, Persian gulf, bgs., works.	lb.	.06¾- —
Para toner, bbls.	lb.	.85 - .88
chlorinated, kgs.	lb.	.95 - 1.05
concentrated, alizarin lake, kgs., works.	lb.	.80 - —
Phloxin toner (see Red, eosin toner).		
Phosphotungsic, rhodamine Y, kgs., works.	lb.	4.45 - —
Pink lake, alizarin, bbls., works.	lb.	.20 - .25
Purple lake, kgs.	lb.	1.35 - —
Rose lake, alizarin, bbls., works.	lb.	.25 - .28
Scarlet ink toner, kgs., works.	lb.	.55 Nom.
Spanish oxide, grade 1, c.l., bbls.	lb.	.05½- .06¼
Toluidin toner, alizarin lake, kgs., works.	lb.	1.30 - —
Turkey, bbls., works.	lb.	.14½- —
Tuscan, bbls., E. St. L.	lb.	.21 - .28
Venetian, 15%, bgs., works.	lb.	.0310- —
20%, bgs., works.	lb.	.0320- —
25%, bgs., works.	lb.	.0350- —
30%, bgs., works.	lb.	.0380- —
35%, bgs., works.	lb.	.0415- —
40%, bgs., works.	lb.	.0440- —
Vermilion, Amer., bbls.	lb.	.22½- .48
Quicksilver, bbls.	lb.	2.50 - 2.65
Red precipitate, NF, powd., fib. dms.	lb.	2.47 - 2.49
Red saunders, wood, grd., bbls.	lb.	.85 - —
Resorcinol, tech., dms., works.	lb.	.68 - —
USP, cryst., dms., works.	lb.	1.70 - —
Rhatany root, bgs.	lb.	.11 - .12
Rhubarb root, whole, cs.	lb.	.65 - .67
powd., bbls.	lb.	.70 - .77
Riboflavin, bots.	kilo.	150.00 - —
Rice bran concentrate, dms., Cedartown, Ga., or Emeryville, Calif.	lb.	.79 - —
Rochelle salt, gran., powd., bbls., 5,000 lbs.	lb.	.34½- —
smaller lots.	lb.	.35 - —
Rose flowers, pale, bls.	lb.	.24 - .26
Rosemary flowers, bls.	lb.	1.55 - 1.65
Leaves, French, bls.	lb.	.13 - .13½
Portuguese, bls.	lb.	.07½- .08
Spanish, bls.	lb.	.13 - .13½
Rosin, gum (see Naval Stores, Protective Coatings market).		
Wood, B, dms., c.l., works.	100 lbs.	5.00 - —
FF, dms., c.l., works.	100 lbs.	6.50 - —
G, H, I, dms., c.l., works.	100 lbs.	8.85 - —
K, dms., c.l., works.	100 lbs.	8.85 - —
M, dms., c.l., works.	100 lbs.	8.85 - —
N, dms., c.l., works.	100 lbs.	8.85 - —
WG, dms., c.l., works.	100 lbs.	8.90 - —
WW, dms., c.l., works.	100 lbs.	8.90 - —
X, dms., c.l., works.	100 lbs.	9.00 - —
Rotenone, bbls., works.	lb.	20.00 -24.00
Extract, liq., dms., works. per unit.		1.75 - —
Powder (see Cube root).		
Rottenstone, bgs., c.l., mines.	ton.	36.00 - —
l.c.l., mines.	ton.	43.00 - —
Rue herb, bls.	lb.	.45 - .48
Rutin, bots.	gram.	.28½- .60

S

Sabadilla seed, powd., bbls.	lb.	.72 - .75
activated ground with lime, bbls.	lb.	.42 - .50
Saccharin, insoluble and soluble, dms., 1,000 lbs.	lb.	1.30 - 1.90
smaller lots	lb.	1.40 - 2.50
Safflower (see Saffron, Mexican).		
Saffron, Mexican, bls.	lb.	1.55 - 1.60
Spanish, USP, tins.	lb.	36.00 -38.00
boxes	lb.	31.50 -32.00
Safrol, cns.	lb.	95 - 1.45
Sage, Cyprian, bls.	lb.	.14 - .14½
futures, bls.	lb.	.14½- .15
Dalmatian, bls.	lb.	.27 - .28
Greek, fancy, bls.	lb.	.18 - .18½
Palestine, bls.	lb.	.16 - .16½
Spanish, bls.	lb.	.13½- 14
Sago flour, bgs.	lb.	.09 Nom.
Salicin, bots.	lb.	No stocks
cns.	lb.	No stocks
Saligenin, dms., works.	lb.	15.00 -20.00
Salol, gran., bbls., kgs.	lb.	1.00 - —
fib. dms.	lb.	1.02 - 1.03
Powdered salol, 10c. higher.		
Salt, rock, bgs., c.l.	ton.	17.50 - —
l.c.l.	ton.	21.70 - —
Table, vacuum, common, fine, bgs., c.l.	ton.	18.60 - —
l.c.l.	ton.	25.10 - —
Saltcake, dom., bulk, works.	ton.	20.00 -26.00
Chrome (see Chrome cake).		
Saltpeter, cryst., bbls., 10 tons, 100 lbs.		12.40 - —
smaller lots.	100 lbs.	12.65 -12.90
gran., bbls., 20 tons.	100 lbs.	8.00 - —
smaller lots.	100 lbs.	9.00 - 9.50
powd., bbls., 20 tons.	100 lbs.	9.00 - —
smaller lots.	100 lbs.	10.00 -10.50
Saltpeter in bags is 25c. per 100 lbs. less than in barrels; in kegs it is $1 more.		
Sanguinarine nitrate, bots.	oz.	4.75 - 5.50
Santonin, cryst., powd., cns.	kilo.	175.00 -185.00
Saponin, No. 1, cns.	lb.	2.45 - —
Sarsaparilla root, dom., bls.	lb.	.45 - .50
Honduras, bls.	lb.	.60 - .61
Mexican, bls.	lb.	.57 - .60
Sassafras bark, ord., bls.	lb.	.45 - .50
select, bls.	lb.	.65 - .70
Savory, French, bls.	lb.	.21 Nom.

Quassia Chips—Shellac, T.N.

Saw palmetto berries, bgs.	lb.	.23 - .24
Scammony resin, lump, cns.	lb.	2.10 - 2.25
powd., cns.	lb.	2.20 - 2.30
Root, bgs.	lb.	.13 - .14
Schaeffer's salt, bgs.	lb.	.60 - —
Seidlitz mixture, bbls., 5,000 lbs.	lb.	.27¾- —
smaller lots.	lb.	.28¼- —
kegs, 5,000 lbs.	lb.	.28¼- —
smaller lots.	lb.	.28¾- —
Selenium, powd., cns., 10-lb. lots.	lb.	2.10 - —
cs., 1,000-lb. lots.	lb.	2.00 - —
Senega root, bls.	lb.	2.25 - 2.50
Senna leaf, Alex., half-leaf, bls.	lb.	.26 - .27
siftings, bgs.	lb.	.23 - .24
Tinnevelly, No. 1, bls.	lb.	.22 - .24
No. 2, bls.	lb.	.20 - .22
No. 3, bls.	lb.	.18 - .20
Pods, bls.	lb.	.53 - .54
Serpentaria root, bls.	lb.	No stocks
Shellac, bleached, bonedry, bgs., 1,500-lb. lots.	lb.	.58½- —
bbls., 1,500-lb. lots.	lb.	.59 - —
kgs., 1,500-lb. lots.	lb.	.61 - —
refined, bgs., 1,500-lb. lots.	lb.	.66½- —
bbls., 1,500-lb. lots.	lb.	.67 - —
kgs., 1,500-lb. lots.	lb.	.69 - —
bonedry shellac sales of less than 1,500 lbs., at following additions to prices:—1c., more for bgs., bbls., or kgs.		
Lemon, No. 1, bgs.	lb.	.65 - —
No. 2, bgs.	lb.	.63 - —
Superfine, bgs., 10 lbs.	lb.	.58 - —
TN, bgs., 10 lbs.	lb.	.56 - —
Shellac in 1 to 9 bgs., 1c. more.		

Silica, Amorphous—Sodium Phosphate

Silica, amorph., dry-grd. 325 mesh, bgs., c.l., lil. works..ton.24.00 -40.00
l.c.l., works.....ton.29.00 - —
wet-grd., 320 mesh, bgs., c.l. works..ton.24.00 -40.00
l.c.l., works.....ton.29.00 - —
Hard-quartz, 99½% 325 mesh, bgs., c.l., works..ton.20.00 - —
l.c.l., works.....ton.25.00 - —
140 mesh, bgs., c.l., works....ton.15.00 - —
l.c.l., works.....ton.20.00 - —
Tetrachloride, tech., dms., c.l., works..lb. .15½- —
l.c.l., works.....lb. .16½- .27
Silver bullion, ingots, cs.....oz. .74⅝- —
Cyanide, fib. dms., 2,500-oz. lots..oz. .62¼- —
1,000-oz. lots .....oz. .62½- —
500-oz. lots .....oz. .62⅝- —
250-oz. lots .....oz. .63 - —
Nitrate, CP. cryst., bots., 2,500-oz. lots..oz. .48 - —
1,000-oz. lots .....oz. .49¼- —
500-oz. lots .....oz. .49½- —
250-oz. lots .....oz. .49¾- —
USP granular silver nitrate, 2c. per oz. higher.
Proteinate, mild, USP, bots., dms., 1,000-oz. lots..oz. .45 - —
strong, bots., dms., 1,000-oz lots. oz. .40 - —
Simarubra bark, bls.....lb. .85 - .86
Skullcap herb, Eastern, bls.....lb. .85 Nom.
Western, bls.....lb. .30 - .35
Skunk cabbage root, bls.....lb. .44 - .45
Slate flour, bgs., c.l., works.....ton.11.00 -12.00
l.c.l., ex whse.....ton.20.00 -60.00
Sloe berries, bgs.....lb. .39 - .40
Smalt, black, ctns.....lb. .11 - —
Blue, ctns.....lb. .16 - —
Snakeroot, Canada, bls.....lb. .63 - .65
Soapbark, bls.....lb. .24 - .25
crushed, bls., bbls.....lb. .32 - .33
cut, foreign, bbls.....lb. .32 - .33
powd., bbls.....lb. .30 - .31
Soda ash, dense, 58%, paper bgs., c.l., works..100 lbs. 1.38 - —
l.c.l., stock points, zone 1.....100 lbs. 2.73 - —
2 .....100 lbs. 2.88 - —
3 .....100 lbs. 3.23 - —
4 .....100 lbs. 3.83 - —
bbls., c.l., works.....100 lbs. 1.78 - —
l.c.l., stock points, zone 1.....100 lbs. 3.13 - —
2 .....100 lbs. 3.28 - —
3 .....100 lbs. 3.63 - —
4 .....100 lbs. 4.23 - —
bulk, c.l., works.....100 lbs. 1.18 - —
light, 58%, paper bgs., c.l., works..100 lbs. 1.30 - —
l.c.l., stock points, zone 1.....100 lbs. 2.65 - —
2 .....100 lbs. 2.80 - —
3 .....100 lbs. 3.15 - —
4 .....100 lbs. 3.75 - —
bbls., c.l., works.....100 lbs. 1.70 - —
l.c.l., stock points, zone 1.....100 lbs. 3.05 - —
2 .....100 lbs. 3.20 - —
3 .....100 lbs. 3.55 - —
4 .....100 lbs. 4.15 - —
Soda ash, light, 58%, bulk, c.l., works. 100 lbs. 1.10 - —

Soda ash prices f.o.b. stock points in zones indicated. Minimum quantity 500 lbs. For less than 500 lbs. prices are ex-warehouse. Sales zones are: (1) All States E. of Miss. R. and N. of south bound. of Ky. 31°, Tex. E. of 100°; S. of 31° Fla.; also Me., N. H., and Vt., in which there are special county zones; Davenport, Ia., and St. Louis; (2) Ark., E. of 98° Ga.; Iowa (except Davenport), Minn.; Mo. (except St. Louis), Neb. E. of 98°, N. C., S. C., Tenn. and Tex. N. of 31° and E. of 100° (except Wichita Falls); also Ala., La. and Miss. No. of 31°; (3) Ark. W. of 96°, Kans., Neb., W. of 98°, N. D., Okla., S. D., Tex., W. of 100° (including Wichita Falls excluding El Paso); (4) Ariz., Colo., Idaho, Mont., Nev., N. M., Utah, Wyo., and El Paso, Tex.

Caustic, flake, powd., 76%, dms., c.l., works..100 lbs. 3.25 - —
l.c.l., dlvd. zone 1.....100 lbs. 4.60 - —
zone 2.....100 lbs. 4.75 - —
zone 3.....100 lbs. 5.10 - —
zone 4.....100 lbs. 5.70 - —
liquid, 50%, sellers' tanks, works, dry basis..100 lbs. 2.25 - —
70%, sellers' tanks, works, dry basis..100 lbs. 2.35 - —
solid, 76%, dms., c.l., wks..100 lbs. 2.85 - —
l.c.l., dlvd. zone 1.....100 lbs. 4.20 - —
zone 2.....100 lbs. 4.35 - —
zone 3.....100 lbs. 4.70 - —
zone 4.....100 lbs. 5.30 - —

Prices f.o.b. stock points in zones indicated, minimum quantity 500 lbs; for less than 500 lbs., prices are ex-warehouse. Soda caustic zones are same as soda ash.

Soda, sal, bgs., c.l.....100 lbs. 1.35 - —
works .....100 lbs. 1.10 - —
bbls., c.l.....100 lbs. 1.40 - —
works .....100 lbs. 1.20 - —
Sodium acetate, anhyd., dms., dlvd..lb. .09½- .11
cryst., NF, bbls.....lb. .07½- .08½
Alginate, refined, water-soluble, bbls., works..lb. .79 - —
semi-refined, bbls., works.....lb. .42 - —
white, powd., dms, works.....lb. 1.50 - 1.60
Alkylbenzene-sulphate, dms., works. lb. .13 - —
Aluminate, for water treat., bgs., c.l., works..100 lbs. 7.60 - —
l.c.l., works.....100 lbs. 8.40 - —
other uses, bgs., c.l., works.100 lbs. 7.00 - —
l.c.l., works.....100 lbs. 7.50 - 8.00
Antimoniate, bbls., c.l., dlvd.....lb. .27 - —
l.c.l., dlvd.....lb. .27¾- —
Arsenate, dealers, dms., c.l., works. lb. .12 - —
l.c.l., works.....lb. .13½- .13¾
Arsenite, gray, dealers, dms., c.l., works..lb. .10¾- —
l.c.l., works.....lb. .13¼- .13¾
Sodium arsenite, gray, ¾c. higher in Chi., 2c. higher in Houston, Tex., and Palo Alto, Calif.
Benzoate, tech., bbls., 2 tons.....lb. .39 - —
smaller lots.....lb. .40 - .41
USP, dms., 2 tons.....lb. .46 - —
smaller lots.....lb. .47 - .52
Bicarbonate, USP, gran., bgs., c.l., works..100 lbs. 2.25 - —
l.c.l., works.....100 lbs. 2.75 - —
powd., bgs., c.l., works.....100 lbs. 1.85 - —
l.c.l., works.....100 lbs. 2.35 - —
Bichromate, bgs., c.l., works....lb. .09 - —
l.c.l., works.....lb. .09½- .09¾
Sodium bichromate, in bbls., ¼c. higher.
Bifluoride, bbls., c.l., frt. alld. E lb. .11½- —
l.c.l., frt. alld.....lb. 13 - 14
kgs., l.c.l., frt. alld.....lb. 12½- 14
Bisulphite, powd., bbls., c.l., works. 100 lbs. 3.25 - —
l.c.l., works.....100 lbs. 3.75 - 4.00
solut, 32°, bbls., c.l., works..100 lbs. 1.30 - —
l.c.l., works.....100 lbs. 1.65 - —
35°, bbls., c.l., works....100 lbs. 1.40 - —
l.c.l., works.....100 lbs. 1.55 - —
40°, bbls., c.l., works.....100 lbs. 1.55 - —
l.c.l., works.....100 lbs. 1.80 - —
Borate (see Borax).
Bromide, USP, bbls., kgs., works. lb. .28 - —
Cacodylate, bots., dms.....lb. 8.50 -12.00
Carbonate (see Soda ash, Soda sal, Sodium monohydrate).
Chlorate, cryst., dms., c.l., works.lb. .06¾- —
l.c.l., works.....lb. .08 - —
powd., kgs., works.....lb. .08¼- —
Chloride (see Salt).
Chlorite, tech., dms., works.....lb .75 - —
Chromate, bbls., dms., c.l., works..lb. .10¾- —
l.c.l., works.....lb. .10¾- .11
Citrate, USP VIII, bbls.....lb 20 - —
dms.....lb 23 - 26
USP XIII, gran., bbls.....lb 26 - —
dms.....lb 27 - 31
Sodium citrate, USP XIII, powd., prices ½c. higher
Cyanide, 96-98%, dms.....lb .14½- .15
Diacetate, 33-35% acidity, bbls., works, dlvd..lb. 10½- .11¼
anhydrous dms., works.....lb. 11½- 13
Fluoride, white, 90%, bbls., c.l., works..lb .09½- —
l.c.l. works.....lb .09¾- —
95%, bbls., c.l., works.....lb .09¾- —
l.c.l., works.....lb .10 - —
Formate, bgs., c.l. works.....lb .0606- .0650
l.c.l .....lb .07 - .0790
Glutamate, monobasic, kgs.....lb 1.46 - 1.48
Glycerophosphate, NF, flake, pbls. lb. 1.80 - —
powder, bbls.....lb. 1.85 - —
solution, 75%, cbys.....lb. 1.06 - —
50%, cbys.....lb. .82 - —
Hydrosulphide (see Sodium sulphydrate).
Hydrosulphite, dms., c.l., frt. alld.lb. .18½- 19
l.c.l., frt. alld.....lb .19 - 20
Hydroxide, tech. (see Soda, caustic).
USP, sticks, dms.....lb. .24 - 29
Hypophosphite, NF, cns.....lb. .67 - .70
Hyposulphite, tech., cryst., bgs., c.l., works, frt. equald..100 lbs. 2.75 - —
l.c.l., same basis.....100 lbs. 3.15 - —
pea cryst., bgs., works, frt. equald..100 lbs. 4.30 - 5.25
Soda, hyposulphite, crystals, in bbls., 40c. higher; pea crystals, dms., 50c. higher.
USP (see Sodium thiosulphate).
Iodide, USP, dms., jars.....lb. 2.72 - 2.83
Mandelate, dms.....lb. 3.25 - 3.35
Metaborate, gran., bgs., c.l., works, ton.90.50 - —
l.c.l., works.....ton.108.00 -113.00
Sodium metaborate in bbls., $20 per ton higher.
Metanilate, bgs.....lb. .48 - —
Metasilicate, anhyd., bbls., c.l., works 100 lbs. 4.00 - —
gran., bgs., c.l., works....100 lbs. 3.00 - —
l.c.l.....100 lbs. 3.90 - 4.25
bbls., c.l., works.....100 lbs. 3.40 - —
l.c.l.....100 lbs. 4.30 - 4.75
Monohydrate, bgs., c.l., works. 100 lbs. 2.00 - —
l.c.l., works.....100 lbs. 2.45 - —
Naphthionate, bbls.....lb. .46 - .55
Nitrate, crude, dom., bgs., c.l., works..ton.40.50 - —
bulk, c.l., works.....ton.37.00 - —
imp., 100-lb. bgs., c.l., Atl. Gul., Pac. whse..ton.45.50 - —
bulk, c.l., same basis.....ton.42.50 - —
Nitrite, 99%, bbls., c.l., works, frt. equald..lb. .06¾- —
West coast ports....100 lbs. 8.00 - 8.05
l.c.l., dlvd.....100 lbs. 8.90 -11.00
Orthosilicate, anhyd., bbls., c.l., works, frt. equald....100 lbs. 4.00 - —
l.c.l., same basis.....100 lbs. 5.45 - 5.80
hydrated, flake, bbls.,c.l., works. 100 lbs. 4.00 - —
l.c.l., works.....100 lbs. 5.10 - 5.35
Oxalate, neut., bgs., works.....lb. .10 - —
Pentachlorophenate, brtquets, bgs., works, frt. equald..lb. .17 - .19
powd., bgs., c.l., same basis..lb. .16 - .16½
l.c.l., same basis.....lb. .17 - —
kgs., l.c.l., works, frt. equald..lb. .19 - —
Perborate, USP, bbls., c.l., works..lb. .14¾- —
l.c.l., works.....lb. .15½- —
Peroxide, dms., c.l., dlvd. E. of Miss. lb. .14 - —
smaller lots, same basis.....lb. .17 - —
Phosphate, dibasic, tech., anhyd., bgs., c.l., works.....100 lbs. 6.25 - —
l.c.l., works.....100 lbs. 6.75 - 7.00
cryst., bgs., c.l., works..100 lbs. 3.50 - —
l.c.l., works.....100 lbs. 3.75 - 3.90
USP, dried, bbls., dms., works.lb. .159 - —
monobasic, anhyd., bgs., c.l., works. 100 lbs. 7.25 - 8.25
l.c.l., works.....100 lbs. 7.65 9.00
tribasic, anhyd., bgs., c.l., works, frt. equald..100 lbs. 7.00 - —
l.c.l., same basis.....100 lbs. 7.50 - 8.00
cryst., bgs., c.l., works, frt. equald..100 lbs. 3.50 - —
l.c.l., same basis.....100 lbs. 3.90 - —
kgs., c.l., same basis.....100 lbs. 4.25 - —
l.c.l., same basis.....100 lbs. 4.45 - —
Sodium phosphates in bbls. 40c. higher than bgs.
USP (see Sodium phosphate, dibasic).

the Safe Bleach-

SODIUM CHLORITE

WON'T DEGRADE PULPS, FATS OR FIBERS

When most standard bleaching agents have oxidized up to a certain point—comes the attack! Fibers are tendered; pulps lose strength; fats revert . . . further bleaching must stop, or be subject to close, costly control.

It's a different story with Mathieson's Sodium Chlorite—and its co-product Chlorine Dioxide—the new bleaching agents which do not degrade pulps, fats or fibers, and hence permit safe bleaching to new highs in whiteness.

Mathieson
SODIUM CHLORITE

Sodium Chlorite Products . . . Chlorine Dioxide
Caustic Soda . . . Soda Ash . . . Bicarbonate of Soda
Liquid Chlorine . . . Ammonia, Anhydrous & Aqua
HTH Products . . . Fused Alkali Products . . . Dry Ice . . . Carbonic Gas . . . Sodium Methylate

WHITE COTTON
WITH STRENGTH

Cotton fibers, when bleached with Mathieson's Sodium Chlorite (Textone) and hypochlorite, are not attacked. Thus better whites are possible with no loss of tensile strength . . . solutions need only slight control.

HIGH BRIGHTNESS
IN PULP

Paper pulps reach very high brightness levels when bleached with chlorine and chlorine dioxide mixtures. Degrading effects are negligible, and pulp yields are high. The mixed-in chlorine cuts costs.

UPGRADING FATS
NOW EASY

Lower grade fats are easily improved to a quality suitable for high-grade soaps, by bleaching with Mathieson's Chlorine Dioxide. No deterioration . . . improved color and odor . . . much higher yields.

Sodium Chlorite—a Mathieson development—is a stable chemical which is used directly for many bleaching and oxidizing purposes . . . or used in conjunction with hypochlorite . . . or as a convenient source of the powerful oxidizing agent, Chlorine Dioxide. Details on the many applications are yours for the asking. Write to: Sales Development Department, The Mathieson Alkali Works (Inc.), 60 East 42nd Street, New York 17, New York.

Sodium prussiate, yellow, bgs.....lb. .12 - —
bbls.....lb. .12¼- —
Pyrophosphate, acid, bgs., c.l., works, frt. equald..100 lbs.10.50 -11.25
l.c.l., same basis.....100 lbs.10.75 -12.00
ferric, dms., 10,000 lbs., works, lb. .22 - —
smaller lots, works.....lb. .22½- —
tetrabasic, anhyd., bgs., c.l., works, frt. equald..100 lbs. 6.00 - —
Ricinoleate, tech., bbls.....lb. No stocks
Salicylate, dms.....lb. .57 - 60
Sesquicarbonate, bgs., c.l., works, 100 lbs. 1.60 - —
bbls., c.l., works.....100 lbs. 1.80 - —
Sesquicarbonate, bbls., l.c.l., dlvd., zone 1..100 lbs. 2.70 - —
zone 2.....100 lbs. 2.85 - —
zone 3.....100 lbs. 3.10 - —
zone 4.....100 lbs. 3.50 - —

Sodium sesquicarbonate l.c.l. price zones are same as those for soda ash

Sesquisilicate, bbl., c.l., works 100 lbs. 3.90 - —
l.c.l., dlvd.....100 lbs. 5.15 - 5.30
Silicate, 40°, turbid., dms., c.l., works..100 lbs. .95 - 1.15
l.c.l., works.....100 lbs. 1.20 - 1.30
tanks, works..... ton.15.00 - —
52° turbid, dms., c.l., works, 100 lbs. 1.55 - —
l.c.l., works.....100 lbs. 1.80 - 2.00
tanks works.....ton.27.00 - —
Silicofluoride, bbls., c.l., works....lb. .06½- —
l.c.l., works.....lb. .07 - —
Stannate, dms., works, frt. alld. E..lb. .43½- .47½
Stearate bbls works.....lb. .19 - 24
Sulphate, NF VII, dried, powd., bbls. lb. .10 - .10½
tech., anhyd., bgs., c.l., works, 100 lbs. 2.10 - —
l.c.l., works.....100 lbs. 2.35 - 2.60
cryst. (see Glauber's salt).
USP, cryst., gran., bbls.....lb. 07 - 07½
Sulphanilate, bbls., works.....lb. .21¾- —
Sulphide, cryst., bbls., c.l., works, 100 lbs. 3.75 - —
l.c.l., dlvd.....100 lbs. 4.15 - —
flake, bbls., c.l., works....100 lbs. 4.50 - 5.50
l.c.l., works.....100 lbs. 5.00 - 5.75
lump, bbls., c.l., works...100 lbs. 4.00 - 5.50
l.c.l., dlvd.....100 lbs. 4.50 - 5.75
Sulphite, cryst., bgs., c.l., works... 100 lbs. 2.60 - —
l.c.l., works.....100 lbs. 3.00 - —
bbls., c.l., works.....100 lbs. 3.00 - —
l.c.l., works.....100 lbs. 3.40 - —
powd., bbls., c.l., works....100 lbs. 3.25 - —
l.c.l., works.....100 lbs. 5.50 - 6.00
Sulphocarbolate, USP 4X, gran., bbls., dms..lb. 28 - 33
powd., bbls.....lb. 30 - 35
Sulphocyanide, CP, dms.....lb. .55 - .65
tech., dms., works.....lb. .30 - —
Sulphoricinoleate, bbls.....lb. .12 - —
Sulphydrate, flake, 70-72%, dms., c.l.lb. .05 - —
liquid, 45%, tanks, works....lb. .04¼- —
Thiocyanate (see Sodium sulphocyanide)
Titanate, ctns., c.l., works.....lb. .10 - —
5 tons, works.....lb. .10¼- —
2,000 lbs. and less, works.....lb. .10½- .13¼
Tripolyphosphate, bgs., c.l., works, frt. equald..lb. .07¼- —
l.c.l.lb. .07¾- —
Thiosulphate, tech. (see Sodium hyposulphite).
USP, cryst., bbls.....lb. 10 - 12
Tungstate, tech., bgs.....lb. 1.40 - 1.45
Sodium-ammonium phosphate, bbls., works, frt. equald..lb. .23 - —
Sodium-carboxymethylcellulose, high vis., ctns., 2,000 lbs., works frt. alld..lb. .68 - —
smaller quantities, same basis.lb. .70 - —
Low and med. vis., ctns., 2,000 lbs., same basis..lb. .62 - —
smaller quantities, same basis.lb. .66 - —
Sodium-cinchophen, bots., dms., works. lb. 5.00 - 5.10
Sodium-formaldehyde sulphoxalate, stand. cont..lb. .19 - .22
Sodium-sulpha drugs (see Sulpha name).
Solvent naphtha, coaltar, dms., works. gal. .23 - —
tanks, E. of Omaha, frt. alld. gal. .23 - —
W of Minnequa, Colo., works, gal. .23 - —
high-flash, dms., works.....gal. .32 - —
tanks, frt. alld. E. of Omaha to 2c. to 3¼c. per gal..gal. .27 - —
Petroleum, 100° F. flash, tanks, Baytown, Tex..gal. .22 - —
150°F. flash, tanks, same basis. gal. .23½- —
Sorbitol, com'l, dms, c.l., works..lb. .25½- —
l.c.l., works.....lb. .26 - .35
Soybean flour, industrial, bgs., 40,000 lbs., works..lb. .067 - —
20,000 lbs., works.....lb. .069 - —
smaller lots, works.....lb. .071 - —
Protein, bgs., 40,000 lbs., works..lb. .29 - —
20,000 lbs., works.....lb. .29¼- —
smaller lots, works.....lb. .29½- .33
Spearmint leaves, bls.....lb. .48 - .49
Spikenard root, bls.....lb. .50 - .55
Spruce extract, liq., reg., tanks, works. lb. .01¾- —
powd., super, bgs., c.l., works..lb. .05¼- —
Squaw vine, leaves, bls.....lb. .45 - .50
Squill, red, fortified, powd., bbls., boxs. lb. 1.60 - —
White, bls.....lb. .10 - .12
powd., bbls., bxs.....lb. .16 - .20
St. Ignatius beans, bgs.....lb. No stocks.
St. John's bread, edible, bls.....lb. .12 - .15
Starch, corn, pearl, paper bgs., c.l. 100 lbs. 7.02 - —
Chicago.....100 lbs. 6.57 - —
l.c.l.....100 lbs. 7.28 - —
powd., paper bgs., c.l.....100 lbs. 7.13 - —
Chicago.....100 lbs. 7.63 - —
l.c.l.....100 lbs. 7.39 - —

Prices for corn starch in cotton bags, 17c. higher.

Potato, bgs., c.l.....lb. .10½ Nom.
l.c.l.....lb. .10¾- .11¼
Rice, bgs., c.l.....lb. No stocks
Sweetpotato, bgs., c.l.....lb. No stocks
Wheat, bgs.....lb. .0729- .0775
Stavesacre seed, bgs.....lb. .60 - .61
Stearin, oleo (see Oleostearin).
Stillingia root, bls.....lb. .45 - .50
Stoneroot, bls.....lb. .07½- .08
Storax, USP, cs.....lb. 1.00 - 1.10
Stramonium leaves, bgs.....lb. .20 - .25
Seed, bgs.....lb. .20 - .21
Streptomycin, hospitals.....gram. 3.40 - —
wholesalers.....gram. 2.72 - —
Strontium bromide, NF, ons., dms. cs. .53 - .55
Carbonate, 90%, bbls.....lb. .14 - .16
98%, bbls.....lb. .23 - .25
Chloride, tech., bbls.....lb. .22 - .24
Chromate, bbls., kgs., Phila.....lb. .40 - .42
Iodide, jars, 25 lbs.....lb. 3.90 - 4.06
Lactate, dms.....lb. 1.30 - 1.35
Nitrate, bbls., c.l., works.lb. .07¾- —
l.c.l., works.....lb. .08¾- .09¾
Oxalate, bbls., works.....lb. .38 - .40
Salicylate, NF, dms.....lb. 1.25 - 1.32
Sulphate, air-floated, 90% 325 mesh, bbls., works..ton.55.00 - —
Strontium-calcium sulphide, phosphorescent dms., workslb. 2.50 - 2.65
Strophanthin, bots.....oz.30.00 -50.00
Strophanthus seed, Kombe, bgs....lb. 2.25 - 2.30
Strychnine, NF, powd., cns., 100 ozs. oz. 1.25 - —
Sulphate, USP, powd., cns., 100 ozs. oz. 1.00 - —
Styrolyl acetate, bots.....lb. 2.50 - 3.10
Sucrose octa-acetate, denat., bbls., l.c.l., works..lb. .55 - —
tech., bbls., l.c.l., works.....lb. .50 - —
Sugar coloring (see Caramel coloring).
Sugar of milk (see Milk sugar).
Sulphadiazin, USP, dms., works...lb. 9.00 - 9.10
Sulphadiazin - sodium, USP, dms., works..lb.10.50 -10.60
Sulphaguanidin, USP, dms., works, lb. 4.50 - 4.60
Sulphamerazin, USP, dms., works, lb. 9.00 - 9.10
Sulphamazerin - sodium, USP, dms., works..lb.10.50 -10.60
Sulphanilamide, USP, powd., bots., works..lb. 1.05 - 1.10

Sulphanilamide, 30-60 mesh, 10c. higher.

Sulphapyridin, NF, powd., bots., tins, works..lb. 7.00 - 7.30
Sulphapyridin - sodium, powd., bots., dms., works..lb. 7.50 - 7.80
Sulphathiazole, USP, powd., dms., works..lb. 3.00 - 3.15
Sulphathiazole - sodium, USP, dms., works..lb. 3.00 - 3.15
Sulphonethylmethane, NF, kgs.....lb. 6.75 - 6.85
Sulphonmethane, NF, kgs.....lb. 5.25 - 5.35
Sulphur, crude, c.l., bulk, mines, contract..long ton.18.00 - —
vessels, Gulf ports, contract, long ton.19.50 - —
export.....long ton.20.00 - —
flour, comm'l, 99½%, bgs., c.l., works..100 lbs. 1.90 - —
l.c.l., works.....100 lbs. 2.50 - 2.85
precipitated, USP, bbls., kgs....lb. .18 - .30
refined, flour, extra fine, bgs., c.l., works..100 lbs. 3.15 - —
l.c.l., works.....100 lbs. 3.50 - 3.90
heavy, bgs., c.l., works..100 lbs. 2.55 - 3.15
l.c.l., works.....100 lbs. 2.85 - 3.45
light, bgs., c.l., works....100 lbs. 2.75 - 3.15
l.c.l., works.....100 lbs. 3.05 - 3.75
flowers, USP, bgs., c.l.....100 lbs. 3.60 - —
l.c.l., works.....100 lbs. 3.90 - —

Refined sulphur flowers in bbls., 35c. higher.

rocks, bgs., c.l., works.....100 lbs. 2.75 - —
l.c.l., works.....100 lbs. 2.15 - 2.75
roll, bbls., c.l., works.....100 lbs. 2.45 - 3.05
l.c.l., works.....100 lbs. 2.45 - 3.45
rubbermakers', bgs., c.l., works, 100 lbs. 1.50 - 2.00
Sulphur chloride, 55-gal. dms., c.l., works..lb. .03¾- —
l.c.l., works.....lb. .04¼- —
10-gal. dms., c.l., works.....lb. .07¾- —
l.c.l., works.....lb. .08¼- —
Sulphur dioxide, liquid, com'l, cyls., works..lb. .035 - —
multi-unit cars, works.....lb. .06 - —
tanks, works.....lb. .044 - —
refrigeration, cyls. l.c.l., works, lb. — - —
Iodide, bots., jars.....lb. 3.90 - 4.11

Sumac bark, 28%, grd., bgs., ex dock, ton.85.00 - —
Extract, No. 1, bbls.....lb. .10½- —
No. 2, bbls.....lb. .09 - —
crystals, bbls.....lb. .40 - —
stainless, bbls.....lb. .11 - .13¼
Leaves, 30%, bgs., ex dock.....ton.95.00 - —
Superphosphate run-of-pile, under 22%
a.p.a. pulv., bulk, Balto.unit-ton. .76 - —
Florida.....unit-ton. .56 - .59
other points.....unit-ton. .57 - .59

Delivery points Ariz., Calif., Colo., Ida., Kans., Nev., N. M., Ore., Utah, Wash., 88½c. per unit-ton plus frt. charges from Anaconda, Mont., in excess of $18.03 per ton; guaranteed 18, 19 or 20% a.p.a., ½c. per unit-ton higher.

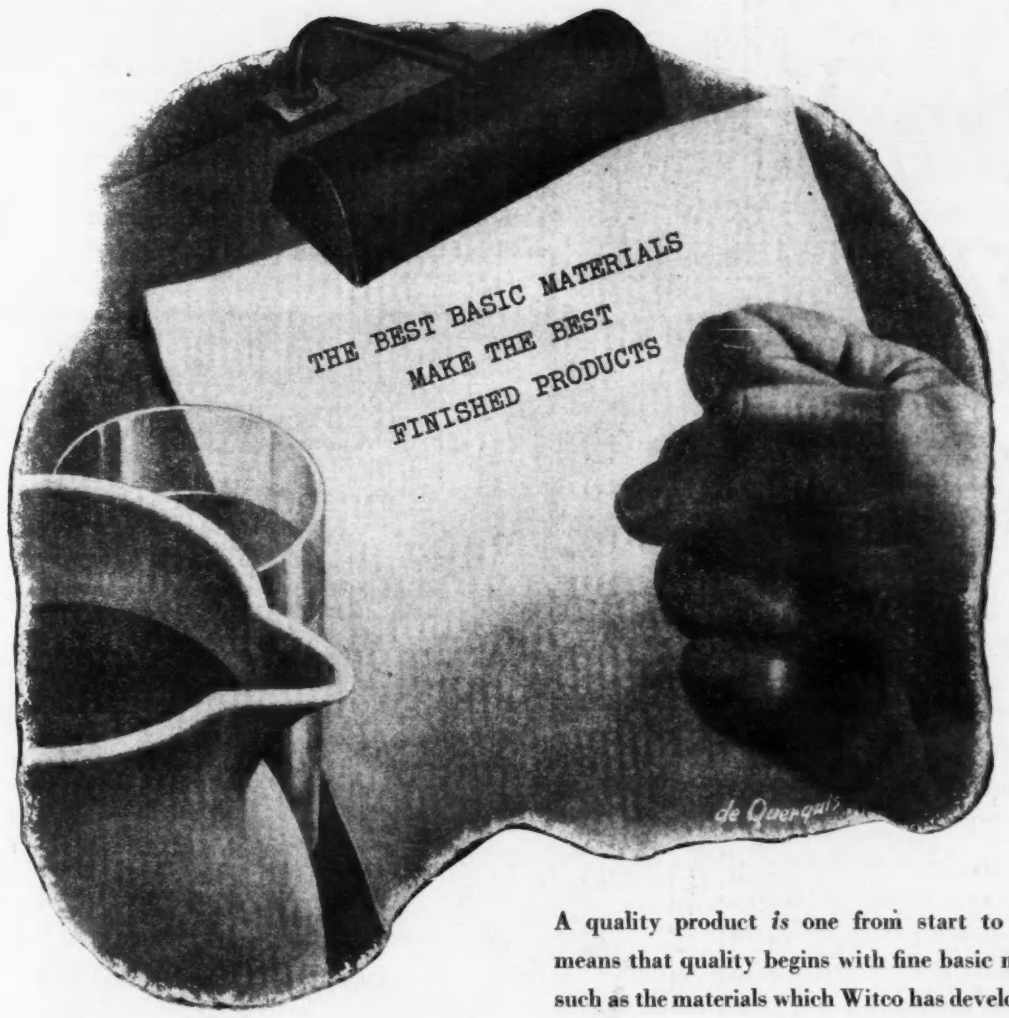
Triple, 48% or more, a.p.a., pulv., bulk..unit-ton. .71 - —
South Carolina.....unit-ton. .75 - —
Tennessee.....unit-ton. .80 - —

Prices on 48% triple superphosphate in other states and D.C., 71c. per unit-ton plus frt. charges from E. Tampa, Fla. Superphosphate, gran., 2c. per unit-ton higher than pulverized.

Sweet basil, bls.....lb. 1.10 - 1.25

T

Talc, dom., ordinary, grd., bgs., c.l., New York works..ton.21.00 - —
l.c.l., works.....ton.22.50 -24.50
Calif., bgs., c.l., works.....ton.22.00 -30.00
Vermont, bgs., c.l., works..ton.14.00 - —
l.c.l., works.....ton.17.50 - —



A quality product *is* one from start to finish. This means that quality begins with fine basic materials . . . such as the materials which Witco has developed through research and production control to add something of fundamental importance to the character of the products in which they are used.

Prepare to meet the challenge of the competitive days ahead. Look over the list of Witco products below and investigate those in which you are interested. We will be glad to send literature and free samples.

WITCO CHEMICAL PRODUCTS FOR INDUSTRY

CARBON BLACKS • EXTENDERS • FERROX YELLOWS • ASPHALT • WITCARBS • FILLERS • MINERAL RUBBER • RUBBER SOFTENERS • ASPHALT SPECIALTIES • STEARATES • PIGMENTS • MICAS • COLORS

WITCO CHEMICAL COMPANY

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SAN FRANCISCO • AKRON • LONDON AND MANCHESTER, ENGLAND

Talc—Vanadium Pentoxide

Talc, fibrous, New York, off-color, grd., bgs., c.l., works..ton.24.00 - —
l.c.l. ..ton.26.50 -28.00
98.95-99.95%, grd., bgs., c.l., works..ton.21.00 - —
l.c.l., works..ton.24.50 - —
98-99.5%, grd., bgs., c.l., works. ton.25.00 - —
l.c.l., works ..ton.30.00 - —
Imp., Canada, grd., bgs., c.l.....ton.35.00 45.00
Tallow, inedible, extra, loose.....lb. .23¾- —
fancy, loose .....lb. .24 - —
special, loose .....lb. .23½- —
sulphonated, 25%, dms.....lb. .13 Nom.
50%, dms. .....lb. .16 Nom.
Tamarinds, bbls. .....lb. 10 - .12
Tankage, animal, feeding, 9-11% ammon., bulk..unit-ton.10.00 - —
Chicago .....unit-ton.10.00 - —
fertilizer, 9% ammon., 10% b.p.l., Chicago..unit-ton. No stocks
10-11% ammon., 15% b.p.l., bulk bulk..unit-ton. No stocks.
Tansy leaves, bls. .....lb. .15 - .16
Tapioca flour, high grades, bgs.....lb. .10 - .10¼
medium grades, bgs.....lb. .09 - .09¼
Java, bgs. .....lb. No stocks.
Tar acid oil, 15-18%, ret. dms., c.l., works..gal. .38 - —
l.c.l., works.....gal. .41 - —
tanks, works.....lb. .32 - —
25%, dms., c.l., works.....gal. .45 - —
l.c.l., works.....gal. .48 - —
tanks, works.....lb. .39 - —
Tar, coal (see Coaltar).
Pine (see Pinetar).

Tara pods, bgs., c.l., ex dock U. S. ports..long ton. No prices
powd., bgs., c.l., same basis..long ton.225.00- —
Tarragon herb, bgs.....lb. .23½- .24
Leaves, bgs.....lb. .95 - 1.00
Tartar emetic, tech., gran., or powd., bbls., kgs..lb. .41 - —
dms. .....lb. .41½- .44
USP powd., bbls., dms., kgs...lb. .45 - 48
Terpin hydrate, com'l, bbls., c.l....lb. .24½- —
l.c.l. .....lb. .25 - 25½
USP, cryst., bbls., dms.....lb. .70 - .75
powd., bbls., dms.....lb. .75 - .80
Terpineol, Alpha (see A)
com'l, dms., c.l., South .....lb 13½- —
l.c.l., South.....lb 14 - —
tanks, South.....lb 13 - —
pure dms .....lb 40 - .56
extra, dms.....lb 47 - 71
Terpineglycol ether, dms., c.l., works. lb. 19½- —
l.c.l., works.....lb. 20 - —
tanks, works.....lb. 19 - —
Terpinyl acetate, extra, cns., dms lb 80 - 1.10
prime, cns., dms.....lb. 61 - 1.00
Terra alba (see Gypsum).
Tetrachlorcethane, dms., works.....lb. 08 - 08½
Tetrachloroethylene, USP, 55 gal dms., works..lb. 20 - 21½
smaller dms., works.....lb. 23½- 25
tech. (see Perchloroethylene).
Tetraethyl orthosilicate, dms., works. lb. 65 - —
Tetraethylenepentamine, tanks, works. lb. 50 - —
Tetrapotassium phosphate (see Potassium phosphate).
Tetrasodium pyrophosphate (see Sodium pyrophosphate)

Thallium sulphate, 99%, bots., dlvd..lb.15.00 -17.50
Theobromine, bots., kgs.....lb. 5.15 - —
Thiamine hydrochloride, dms., 100 grams..kilo.160.00 - —
Thiocarbanilide, dms. .....lb. .24 - —
Thiodiphenylamine (see Phenothiazine).
Thiouracil, dms., works.....lb. 5.50 - 6.00
Thiourea, tech., dms., works.....lb. .40 - —
Thorium nitrate, cs., works.....lb. 3.00 - —
Thyme, French, bgs.....lb. .23½- .24
futures, bgs. .....lb. .23½- .24
Spanish, bls. .....lb. .11½- .12
Thymol, USP, kgs.....lb. 3.65 - 3.75
Iodide, NF, dms.....lb. 3.55 - 4.25
Timbo root (see Cube root)
Tin crystals, bgs., bbls., works... lb. .55 - 60
Metal, Bolivian .....lb. .80 - —
Straits .....lb. .80 - —
Oxide, bbls. .....lb. .80 - 82
Tetrachloride, anhyd., dms., works, lb. .50 Nom.
Titanium dioxide, anatase, chalk-resistant, bgs., c.l., dlvd .....lb. .16½- —
l.c.l., dlvd. .....lb. .17 - .17½
plain, bgs., c.l., dlvd.....lb. .16½- —
l.c.l., dlvd .....lb. .17½- —
rutile, natural, granular, bgs., c.l., works..lb. .06¾- —
l.c.l., works .....lb. .06½- —
milled, bgs., c.l., works.....lb. .06½- —
l.c.l., works .....lb. .06¾- —
nonchalking, bgs., c.l., dlvd. E. lb. .18½- —
l.c.l., dlvd. E.....lb. .19 - .19½
Hydride, cns., works.....lb. 7.00 - 8.00
Pigment, barium base, bgs., c.l., dlvd..lb. .06¾- —
l.c.l., dlvd.....lb. .07 - —
Calcium base, bgs., c.l., dlvd..lb. .06¼- —
l.c.l., dlvd.....lb. .06¾- —

Titanium, pigment, calcium-rutile base, bgs., c.l., dlvd..lb. .06¼- —
l.c.l., dlvd .....lb. .06¾- —
Magnesium base, bgs., c.l., dlvd...lb. No prices
l.c.l., dlvd.....lb. No prices
Titanium dioxide and pigment in bbls., ¼c. higher; Pac. coast, c.l., dlvd., l.c.l., ex whse., ½c. higher.
Tetrachloride, CP, 55-gal. dms., works..lb. .57 - .6
smaller, pkgs., works.....lb. .65 - 1.22
technical, 55-gal. dms., works..lb. .32 - —
smaller pkgs., works.....lb .40 - 1.00
Tolu balsam, cns.....lb. 3.55 - 3.75
Toluene (see Toluol).
Tolidin base (see Orthotolidin).
Toluol (toluene) 2° industl., ret. dms., works..gal. .28 - —
tanks, E. of Omaha, frt. alld..gal. .23 - —
W. of Minnequa, Colo., works gal. .23 - —
1° nitration, ret. dms., works... gal. .28 - —
tanks, E. of Omaha, frt. alld. gal. .23 - —
W. of Minnequa, Colo., works gal .23 - —
Prices on 2° toluol from petroleum, tanks delivered (maximum freight allowance in parentheses), are: Ark., 23c; Chicago, 23c. (2½c.); Del.-Md.-D. C., 25c. (2½c.); Detroit, 23c. (1 8/10c.). Ia., 23c.; N. E., 25c. (2½c.); N. J., 22c.; N. Y., 23c.; E. Tenn. & N. C., 25c. (5c.); Pa., 23c. (2½c.); S. C., 25c.; W. Tenn., 29c. (3½c.); Va., 24c. (3½c.); W. Va., 23c. (2½c.).
Tonga, 50% bark and vine, bls.....lb. 90 - 91
Tonka beans, Angostura, cks.....lb. 1.70 - 1.80
Brazilian, cs. .....lb. .85 - .90
Surinam, cs. .....lb. .85 - .90
Totaquine, USP, 100-oz. lots..... oz. .52 - —
Trinectin, dms., works.....lb. .40½ - —
Tributyl citrate, dms.....lb .44 .50
smaller pkgs.....lb .52 - .56
Phosphate, dms., l.c.l., frt. alld., E. of Rockies..lb 68 - —
smaller pkgs. .....lb .72 - .74
Tributylamine, dms., c.l., works..lb. 78 - —
l.c.l., works .....lb. 81 - —
tanks, same basis.....lb. 07½- 09¼
Trichlorobenzene, dms., c.l., works, frt. alld. or equald..lb. 08½- .11
l.c.l., same basis.....lb. 09½- .12
Trichloroethane, dms., c.l., works..lb. .15 - —
l.c.l., works.....lb. 17 - —
Trichloroethylene, tanks, c.l., frt. alld., zone 1..lb. 09¾- —
zone 2 .....lb. 10½- —
zone 3 .....lb. 11 - —
zone 4 .....lb. 11 - —
Trichloroethylene dm., c.l. prices ½c. higher; l.c.l. 1¼c. higher. Zones are—(1) Conn., Del., Ill., Ind., Ia., Ky., Me., Md., Mass., Mich., Minn., Mo., N. J., N. Y., N. C., Ohio, Pa., R. I., Tenn., Vt., Va., W. Va., Wis., Omaha, K. C., Kan.; (2) Ala., Ark., Fla., Ga., Kan., La., Miss., Neb., N. D., Okla., S. C., S. D.; (3) Col., Mont., (E), N. M., Tex., Wyo.; (4) Ariz., Cal., Idaho, Mont. (W), Nev., Ore., Utah, Wash.
Tricresyl phosphate coaltar, dms., c.l., frt. equald..lb. 32½- .33
l.c.l., dlvd .....lb. 33 - 33½
tanks, dlvd .....lb. 31 - 32
petroleum, dms., c.l., dlvd.....lb. 37 - —
l.c.l., dlvd.....lb. 37½- —
tanks, dlvd.....lb. 36 - —
Triethanolamine, dms., c.l., frt. alld. E..lb. 20½- —
l.c.l., same basis.....lb. 21½- —
smaller containers.....lb. 24½- —
tanks, same basis.....lb .19 - —
Triethyl citrate, dms.....lb. 34 - .42
smaller pkgs.....lb. 45 - —
Phosphate, dms., works, c.l.....lb. 38 - —
dms., l.c.l., same basis.....lb. 39 - —
tanks, same basis.....lb. 37 - —
Triethylamine, dms., c.l. works, basis 100% lb 34 - —
l.c.l., works, basis 100% .....lb. 36 - —
tanks, works, basis 100%.....lb. 30 - —
Triethyleneglycol, dms., c.l., frt. alld. E lb 18½- 19
l.c.l., same basis .....lb. 19½- 21
tanks, same basis.....lb. 17½- —
Triethylenetetramine, tanks, works.lb. 50 - —
Trimethylamine, anhydrous, cyl., works, basis 100% lb 29½- 39½
25%-40%, dms., c.l., works, basis 100% lb 28 - —
l.c.l., works, basis 100%.....lb. 29½- —
tanks, works, basis 100%.....lb. 25 - —
Triphenyl phosphate, bbls., c.l., frt. equald..lb. 26 - —
l.c.l., frt. alld. .....lb. 27 - —
Triphenylguanidine, bbls., works....lb. .75 - —
Tripoli, air-floated, bgs., c.l., works.lb. 0175- —
double-grd., c.l., works.....lb. 016 - —
single-grd., bgs., c.l., works.....lb. 015 - —
Trisodium phosphate (see Sodium phosphate, tribasic).
Tuba root (see Cube root)
Tungsten metal, powd., 99.9%, dms., works..lb. 4.75 - —
Oxide, kgs., works.....lb. 2.85 - —
Turmeric root, Alleppey, bls.....lb. .24 - .24½
Haitian, futures, bls.....lb. .11½- .12
Jamaica, futures, bls.....lb. .15½- 16
Madras, bgs. .....lb. .20 - .20½
Turpentine, gum (see Naval Stores, Protective Coatings market).
Sulphate, ret. dms., East.....gal. .65 - —
tanks, East .....gal. .40 - —
Wood, dest.-dist., dms., incl., c.l., works, South..gal. .45 - —
l.c.l., same basis.....gal. .46 - —
N. Y. whse.....gal. .60 - —
steam-dist., dms. incl., l.c.l., East. gal. .75 - —
tanks, South .....gal. .55 - —

U

Unicorn root, false (see Helonias root).
True (see Aletris root).
Uranium oxide, black, bgs.....lb. 2.55 - —
yellow, kgs .....lb. 1.65 - —
Urea, dom., 46% N., bgs., c.l., works or ship. pts..ton.73.00 - —
l.c.l., bgs., ship. pts.....ton.75.50 - —
fertilizer comp., 42% N., bulk, c.l., works or Atlantic or Gulf ports. ton.73.00 - —
Urea-ammonia liquor (A and B), free ammonia content, Belle, W. Va., freight equalized with Hopewell, Va..ton.59.00 - —
fixed ammonia content, Belle, W. Va., freight equalized with Hopewell, Va..NH_3-ton.112.80 - —
C and D prices for Urea-ammonia liquor are $1.20 per ton of nitrogen higher than the A and B respectively for the same destinations.
Uva ursi leaves, bls.....lb. .13 - .14

V

Valerian root, Belgian, NF, bls...lb. .56 - .58
Indian, bls. .....lb. .40 - .41
Valonia beards, bgs., ex dock.....ton.73.00 -75.00
Cups, bgs., ex dock.....ton.53.00 -54.00
Extract, powd., bgs., ex dock, duty extra..lb. .09¼- —
Vanadium pentoxide, CP, bgs., cns., works..lb. 7.00 - —
tech., dms., works.....lb. 1.20 - —

Complete integration of its manufacturing facilities plus economical water borne supply of its own principal raw materials, make *Pittsburgh* Coke & Chemical Company a reliable source of supply for Coal Chemicals and associated products. Inquiries for any of the products listed below are invited and, for special applications, technical assistance and recommendations are available for the asking.

Vanilla beans, Bourbon, tins.....lb. 7.75 - 8.50
Mexican, cuts, tins.....lb. 8.50 - 9.00
whole, tins.....lb. 10.00 -11.00
Tahiti, tins.....lb. 4.00 - 4.25
Vanillin, ex eugenol, tins, 25 lbs....lb. 4.50 - —
smaller lots .....lb. 4.55 - 4.65
ex guaicol, tins, 25 lbs.....lb. 3.00 - —
smaller lots.....lb. 3.05 - 3.15
ex lignin, dms., 25-lb. lots.....lb. 3.00 - 4.50
tins, smaller lots.....lb. 3.05 3.15
smaller lots, tins.....lb. 3.05 - 3.15
Venice turpentine, artif., ens.....lb. .24 - .26
Verdigris, bbls. .....lb. .28 - .29
Vinyl acetate, 55-gal. dms., works..lb. .16½- .17½
5-gal. cns., works.....lb. .30 - —
tanks, works.....lb. .15 - —
Trichloride (see Trichloroethane).
Vinylpyridin, ret. dms., works....lb. 1.50 - —
Viosterol, bots., 100 billion USP units mill units .04 - —
1 billion USP units....mill units. .05 - —
100 million USP units..mill units. .07 - —
Vitamin A (see Oils, codliver, fishliver).
A concentrate, dms., works.... mill. units .36 - .40
B_1 (see Thiamine hydrochloride).
B_2 (see Riboflavin).
B complex, natural (see Rice bran and Yeast).
B_6 (see Pyridoxin).
C (see Acid, ascorbic).
D (see Oils, codliver and fishliver, Calciferol and Viosterol)
D_2 (See Calciferol)
E (see Alpha-tocopherol and Oil, wheatgerm).
G (see Riboflavin)
P-F (see Acid, nicotin, and Nicotinamide).
Violet, methyl, toner (see M).
V.M.P. naphtha (see Petroleum naphtha).

W

Wahoo root bark, bls.....lb. 2.25 - 2.30
Tree bark, bls.....lb .45 - .50
Wattle bark, fair average, or E. Afr., bgs., ex dock..ton.69.00 -71.00
merchantable, bags, ex dock..ton.65.00 -67.00
Extract, liquid, 35% tannin, bbls., works..lb. .06¾- .07¾
tanks, works .....lb. 06¾- 06¾
solid, E. Afr., 61% tannin, ex dock, duty extra..lb. .07¾- —
S. Afr., 62% tannin, ex dock, duty extra..lb. .07⅞- —
Wattle extract prices based on $17 freight and $1 insurance per long ton.
Wax, amorphous (see Wax, microcrystalline).
Bayberry, bgs .....lb. No stocks
Bees, bleached, USP, white, bricks, cs..lb. .70 - .73
slabs, bgs. .....lb. .69 - .71
crude, African, bgs.....lb. .49 - .50
Western hemisphere, bgs.....lb. .50 - .51
refined, yellow, bricks, cs.....lb. .60 - .62
slabs, bgs. .....lb. .58 - .60
Candelilla, crude, bgs.....lb. .62 - .64
refined, bgs. .....lb. .65 - .67
Powdered candelilla, 20 mesh, 5c. per lb. extra, 80 mesh, 5½c.; 100-200 mesh, 6c.
Carnauba, chalky, No 3, bgs., ton lots..lb. .71 - .73
North country, No. 2, ton lots....lb. .80 Nom.
No. 3, bgs., ton lots.....lb. .73 - .75
refined, bgs., ton lots.....lb. .80 - .81
yellow, No. 1, bgs., ton lots.....lb. 1.50 - 1.55
No. 2 .....lb. 1.48 - 1.53
Powdered carnauba price differentials same as powdered candelilla.
Ceresin, dom., 132°-136° m.p., bgs. lb. .16 - .16¾
138°-140° m.p., bgs.....lb. .18 - .18¾
158°-162° m.p., bgs.....lb. .22 - .23
Japan, bgs. .....lb. .55 - .57
Microcrystalline, 170°-175° m.p., ASTM, amber, ctns. 30 tons yearly contract, group 3 works..lb. .16 - —
smaller lots, same basis....lb. .16 - .17¼
170°-175° m.p., ASTM, black ctns., 30 tons, same basis..lb. .14½- —
smaller lots, same basis....lb. .14½- .15¼
white, ctns., 30 tons, same basis. lb. .27 - —
smaller lots, same basis....lb. .27 - .29
190°-195° m.p., ASTM, amber, ctns., 30 tons, same basis..lb. .21 - —
smaller lots, same basis.....lb. .21 - .22
190°-195° m.p., ASTM, black, ctns., 30 tons, same basis..lb. .19½- —
smaller ctns., same basis....lb. .19½- .20½
white, ctns., 30 tons, same basis. lb. .24 - —
smaller lots, same basis.....lb. .24 - .25
Montan, crude, bgs.....lb. .45 - .46
Ouricury, crude, bgs., ton lots....lb. .60 - .62
refined, bgs., ton lots.....lb. .66 - .68
Ozokerite, dom., 180-190 m.p., bgs., c.l...lb. .26 - —
182-182 m.p., bgs., c.l.....lb. .31 - —
171-172 m.p., bgs., c.l.....lb. .27 - —
Spermaceti, blocks, cs.....lb. .48 - .50
cake, cs. .....lb. .49 - .51
White lead (see Lead, white).
White precipitate, powd., dms., 50 lbs. lb. 2.27 - —
White pine bark, rossed, bls.....lb. .18 - .19
Whiting, limestone, dry-grd., 325 mesh, bgs., 40 tons, St. Louis, works ton.10.00 - —
40 tons, N. Y. whse.....ton.18.00 - —
smaller lots, St. Louis, works.ton.12.50 - —
wet-grd., air-floated, 99% 325 mesh, bgs., c.l.....ton.14.50 -27.50
99% 200 mesh, bgs., c.l.....ton. No prices
99% 200 mesh, bgs., c.l.....ton. No prices
water-floated, extra gilders, bgs., c.l..ton.14.50 -28.00
gilders, bgs., c.l.....ton. No prices
putty grade, bgs., c.l.....ton.13.00 - —
surface treated, bgs., c.l. Ohio works..ton.30.00 - —
Paris white, bgs., c.l.....ton.25.00 -31.00
l.c.l. .....ton.25.00 -29.00
Precipitated, bgs., c.l.....ton.18.00 -20.00
l.c.l. .....ton.22.00 -25.00
Wild cherry bark, thick, bls.....lb 06 - 07
thin, natural, bgs.....lb. .17 - .18
rossed, green, bls.....lb. .24 - .26
Wild indigo root, bls.....lb. .30 - .31
Witch hazel leaves, bls.....lb. .25 - .28
Witherite (see Barium carbonate, natural).
Woodflour, 40 mesh, bulk, c.l., works, East..ton.32.00 - —
l.c.l., same basis.....ton.40.00 - —
60 mesh, bulk, c.l., same basis..ton.37.00 - —
l.c.l., same basis.....ton.45.00 - —
80-100 mesh, bulk, c.l., same basis.. ton.40.00 -45.00
l.c.l., same basis.....ton.50.00 -55.00
Woodflour in bgs. extra, returnable.

Woolfat (see Lanoline).
Wormseed, American, bgs.....lb. .17 - .18
Levant, bgs. .....lb. 4.25 - 4.30
Wormwood, bls. .....lb. .80 - .90

X

Xanthorrhiza root, bls.....lb. .28 - .30
Xylene (see Xylol).
Xylenol, 5°-7°, ret. dms., c.l., works, frt. equald. ..lb. .19¼- —
l.c.l., same basis.....lb. .19¾- —
tanks, same basis .....lb. .18½- —
fractions, ret. dms., c.l., same basis. gal. 1.26 - 1.31
l.c.l., same basis.....gal. 1.29 - 1.34
tanks, same basis.....gal. 1.20 - 1.25
Xylidins, mixed, dms.....lb. .38 - .38½
Xylol (xylene), indust., ret. dms., works..gal. .30 - .31½
tanks, E. of Omaha, frt. alld...gal. .25 - .26½
W. of Minnequa, Colo., works. gal. .25 - .26½
10°, ret. dms., works.....gal. .32 - .33½
tanks, E. of Omaha, frt. alld..gal. .27 - .28½
8°, ret. dms., works.....gal. .40 - .41½
tanks, E. of Omaha, frt. alld..gal. .35 - .36½
8°, ret. dms., works.....gal. .45 - .46½
tanks, E. of Omaha, frt. alld...gal. .40 - .41½
Prices on 10° xylol from petroleum, tanks, delivered (maximum freight allowances in parentheses), are:—Ark., 25c.; Del.-Md.-D. C., 25c. (2¾c.); Detroit, 25c. (1 8/10c.); La., 25c.; N. E., 25c. (2¼c.); N. J., 25c.; N. Y., 25c.; E. Tenn. & N. C., 27c. (5c.); Pa., 25c. (2¾c.); S. C., 27c.; W. Tenn., 27c. (3½c.); Va., 26c. (3½c.); W. Va., 25c. (2¾c.); the Chicago prices is 22c., f.o.b. terminal.

Y

Yara yara, cryst., bots., cns. ....lb. 1.62 - 1.75
Yeast, brewer's dry, 50 B units, dms..lb. .55 - —
90 B units, dms.....lb. .45 - —
200 B units, dms.....lb. .50 - —
300 B units, dms.....lb. .60 - —
Yellow, barium chromate, CP, bgs., l.c.l., divd. N. of Tenn. and N. C., E. of Miss., including Davenport, Minneapolis, Rock Island, St. Louis, St. Paul..lb. .32 - —
Barium chromate yellow price diffenentials in other States and city zones are those for chrome yellow below.
Benzidin, bbls., divd.....lb. 1.60 - —
Cadmium, CP, all shades, bbls., frt. alld. E. of Rockies..lb. 2.40 - —
Lithopone, all shades, bbls., frt. alld. E. of Rockies..lb. .85 - —
Cadmium yellows, Los Angeles and San Francisco, ex whse. 1c. per lb. higher.
Chrome, CP, bbls., divd. N. Tenn. and N. C., E. of Miss., including Davenport, Minneapolis, Rock Island, St. Louis, St. Paul, contracts..lb. .27 - —
Divd. Ala., Fla., Ga., La., (Shreveport), 1½c. higher; Miss., N. C., S. C., Tenn., Dallas, Tex., 1¾c. higher; Ft. Worth, Tex., 1½c. higher; El Paso, Tex., 2c. higher; Cedar Rapids, Des Moines, Kansas City, Lincoln, Omaha, St. Joseph, 1.6c. higher divd. Pac. Coast; for Denver, Pueblo, Salt Lake City, Wichita prices are equalized with Chicago

Vanilla Beans—Zinc Arsenite

Yellow, hansa, bbls., same basis as chrome..lb. 1.60 - —
Primrose, bbls., same basis.....lb. 1.90 - —
Iron oxide, natural, bgs., c.l., works. lb. .01½- .02¾
l.c.l., works .....lb. .02¾- .03¾
French type, bgs., c.l.....lb. .04 - —
l.c.l. .....lb. .04½- —
Peruvian type, bgs., c.l...ton.27.00 -32.00
synth., bgs., c.l., works.....lb. .08¼- —
l.c.l., works.....lb. .08½- —
Mercury oxide, bbls., 1,000 lbs.....lb. 2.23 - —
smaller lots .....lb. 2.25 - —
Ocher, American, golden, bgs., works. lb. .01¼- .02¾
Zinc, bbls., same basis as chrome..lb. .20 - —
Yellow dock root, bls.....lb. .23 - .25
Yellow xanthorrhiza (see Xanthorrhiza).
Yerba santa leaves, bls.....lb. .45 - .50
Yohimbine hydrochloride, vis.....oz. 3.25 - 4.00

Z

Zein, bgs., 1,000 lbs., works.....lb. .25 - —
smaller lots works.....lb. .30 - —
Zinc acetate, tech., bbls., dms.....lb. .20 - —
USP, bbls. .....lb. .26 - .27
kgs. .....lb. .27 - .29
Arsenite, bgs., c.l., frt. alld. E. of Rockies..lb. No stocks
l.c.l., same basis.....lb. No stocks

—Continued on page 89

FOR AN ACRE'S PROTECTION

A POUND OF PREVENTION

CORN • ALFALFA • COTTON TRUCK CROPS

This is the actual acre dosage of "Velsicol" "1068" insect toxicant—formulated as a dust, emulsion or wettable powder—which will prevent crop destruction by

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CHINCH BUG
GRASSHOPPER
HARLEQUIN CABBAGE BUG
COTTON BOLL WEEVIL
LYGUS BUG
PEA LEAF MINER
SERPENTINE LEAF MINER
SQUASH BUG
WHITE FRINGE BEETLE

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Founded October 18, 1871, by William O. Allison
Directed 1900-1942, by Harry J. Schnell
Incorporating Drug, Paint and Oil Trade, The New York Drug Bulletin, The Weekly Drug News, New York Druggists' Price Current, The Soap Makers Journal, Oil and Paint Review, and International Petroleum Reporter.
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Furthering Paint Technology

In creating a new class of membership for advanced technical students in approved institutions of learning, the Federation of Paint and Varnish Production Clubs has scored a real advancement in the improvement of its already excellent functioning. That, quite naturally, will be conducive to still further usefulness and helpfulness in the services of the federation to the industry of which it is a notably progressive unit. Furthermore, it is confidently to be expected that the admission of students to the federation's work on problems and progress of the industry will contribute much to the providing of technical men fittingly prepared to go forward in practical service.

The Federation of Paint and Varnish Production Clubs has done commendable work through its educational programs toward the development of practical attitudes, as well as knowledge, among technical students. Because the technical needs of the paint industry, in common with those of all other divisions, require at least as much ability to apply knowledge as to search for it or even develop it, the value of practical training for prospective technical employees is high indeed. And the essentiality of the proper attitude in the acquiring of such training has been well established.

By reason of its experience under the educational programs, the federation can be expected to apply excellent judgment to the approval of teaching institutions from which student members will be accepted. The members of its educational committee know what is wanted, and they are motivated by the outstanding aversion of the federation toward unproven substitutes.

Alkalies and the Marshall Plan

All those who studiously con the front page, the editorial columns, the special articles, and the economic commentaries in the newspapers of the land must have a fellow-feeling with the puzzled OPD reader who has written to the editor. He had been endeavoring futilely to reconcile the Marshall plan's requirements of soda ash and caustic soda, as set forth in last week's issue, with the report of imports of caustic soda from France on another page therein. Plaintively he inquires:—"If they need caustic soda so badly, how is it that they can export to us? Is this just a sample of how we are being 'hoodwinked' by Europeans and our own State department—or can you explain the matter?"

Nobody can explain that matter fully otherwise than in the peculiar semantics of political economy. That is less intelligible than the language of professional economists in the commercial fields. And because the requirements of the Marshall plan with respect to any item—even money—are still in the regions of guessing, the many puzzles which they present are without even a key.

Exports of caustic soda and soda ash from the United States, as indicated by quotas issued under the scheme of export-control, are currently about three times the volume of prewar averages. How much of them are in private dealing and how much in governmental commitments can only be conjectured. That their volume contributes to the inadequacy of supplies of those alkalies for domestic consumption is plain. That much of the exported material is going to countries not embraced by the Marshall plan appears to be true. It is also true that those countries did not, in any substantial degree, buy soda alkalies from the United States when it was possible to get such materials from Europe. All of which contributes nothing toward the solution of the puzzle submitted above.

Normally considered, the matter attains still greater complexity when it is recognized that such alkalies as may be available for export from European countries could be sold in other countries at prices higher than those prevailing in the United States, even in the "open" markets. The reason why at least some of them are coming to the United States is that the countries from which they come need other commodities which they can get only in this country—and they have to have dollar credit to get them.

When the Marshall plan gets into action, it will present an opportunity for other countries to get dollar credits through the furnishing of commodities which it is expected to supply. Not all the chemicals, or any other class of goods, that will be provided under the relief program of the Marshall plan will be produced in the United States. It is greatly to be desired that this country's contributions be in dollars, rather than in goods, and to the extent that it is possible to get required goods from other countries they doubtless will thus be provided. In some instances, countries which are getting relief from the United States will be furnishing certain goods for the use of other recipients of that relief, charged to the account of the United States. One of the primary purposes of the Marshall plan is the financing of the industrial and commercial recovery of the Eastern Hemisphere. The goods which that will require meanwhile just could not all be produced in the United States.

Industrial Recentralization

Recentralization of industries appears to be increasing in popularity. Some of the shifts are such as to deserve the characterization, "revolutionary," which has commensurate popularity among financial writers. It is not always clear, however, to other observers that the predicted profitableness of the moves for producers and consumers will be realized.

When the cotton textile industry moved to the South so as to be near the source of supply of its basic material, the shift was widely regarded as a rebellion, rather than a revolution. Now that the wool-processing industry is planning to relocate in the sheep-raising regions of the West, there is an even stronger resentment in the Eastern centers of such activities. Whether the fact that sheep can be raised in Vermont, as well as in Wyoming, may bring about another recentralization in the wool industry, bringing the raw material to the region of processing, remains to be seen. It has been threatened.

Another Southward movement which, like that to get near the climatically delimited sources of cotton, finds it desirable to go where a desired and necessary material is located is the trek of industrial consumers of hydrogen to the natural gas fields. Cost of material, as well as expected savings in transportation, is of influence in that connection.

Transportation is, of course, an important factor in all business problems today. It is boosting the price of many chemicals today. Whether, in chemicals or in textile fibers, intermediate or finished products can be shipped at a cost which will not offset the savings of relocating their processing is likely to become increasingly uncertain.

OPD Forum

Outlet for Individual Opinion

(Anonymous communications will not be recognized, but a signer's name will be withheld at request.)

DDT Supply Conditions

The Editor,
OIL, PAINT AND DRUG REPORTER.
Sir:—

DDT has been plentiful for several months, and substantial stocks have been built up. But, the substantial stocks are more fiction than fact, because prospective buyers are extremely price-minded and many are remaining aloof from the market. There seems to be a generally accepted philosophy that DDT is under extreme pressure and will be liquidated by the manufacturers at almost any price. The following few facts will prove such notions to be fallaciously preconceived:—

1. Production capacity.—The data supplied by the United States Tariff Commission certainly disprove any disproportionately large production of DDT through the months of 1947. It is conceded that consumption and purchases probably did slump off rather abruptly during the latter half of 1947. But, from general information available, all manufacturers have not continued to produce DDT, in the absence of a buying market, at previous production levels. On the contrary, most manufacturers seem to have a prudent stockpile and have shut down manufacturing pending reactivation of the market. This could very well cause a shortage of DDT, a little later when formulating of insecticides for the next season begins.

2. Increased costs of manufacture.—It is very unlikely that there will be a decline in DDT prices, in fact, there are certain basic facts which would indicate an upward trend in the price.

During the third quarter, several very substantial advances took place in the raw materials which are used in the manufacture of DDT: for example, chlorine advanced $5 per ton; benzene advanced $2 per hundredweight; and other components, such as caustic soda, sulphuric acid, and ethyl alcohol, all underwent advances in price. It almost seems superfluous to mention the fact that wages remain firm with a tendency to advance. Finally, chlorination operations in the chemical industry are such that equipment replacement proceeds at a very rapid rate. Consider the cost of replacing equipment in plant structures at present-day levels as compared to what they were only two or three years ago at the time several of the DDT producers installed their operations and others expanded their operations. All will agree that these factors are definitely on the inflationary side.

There is nothing whatever in the cost of manufacture of DDT that would justify re-

—Continued on page 86

known and unknown weak points of DDT so that the length of residual action can be controlled to suit individual needs.

Mange 'Cures' Status Disputed

Producers of mange "cures" are facing the prospect of two agencies of the government who have jurisdiction over the product, but the headaches that usually attend such situations may not appear to be as many as might otherwise be expected.

Mange "cures" are a product, which the Department of Agriculture says falls within the scope of the provisions of the new insecticide act and therefore they must be registered with the insecticide division of the livestock branch. At the same time, the Food and Drug Administration also claims jurisdiction over such products under the Food, Drug and Cosmetic act.

Officials are working out a cooperative arrangement whereby the FDA will pass upon the labels for these products and if they meet the requirements of the FDA, they will then be acceptable for registration with the livestock division.

Freightcar Outlook Gloomy

The freightcar supply situation continues to be the major problem of the railroads—and of business—and officials are not optimistic that the situation will be eased at anytime in the near future. They are talking of possibly some slight relief in 1948, but aren't too hopeful.

During October more new cars were built and put into operation than were retired or laid up for repairs. This was an exception to the rule, however, because it was the first time that the manufacturers had been able to make any headway in the replacement problem for years. Only 7,000 new cars were built during the month, which is still 3,000 short of the goal that must be reached before there will be any appreciable relief in the situation.

Washington Talks It Over

—Continued from page 5

are now being made to outlaw the practice in the set of fair trade practice rules now under consideration by the FTC.

If the commission can make its complaint against Philco stick, it may well set the precedent for abolishing "push money" in the cosmetic industry.

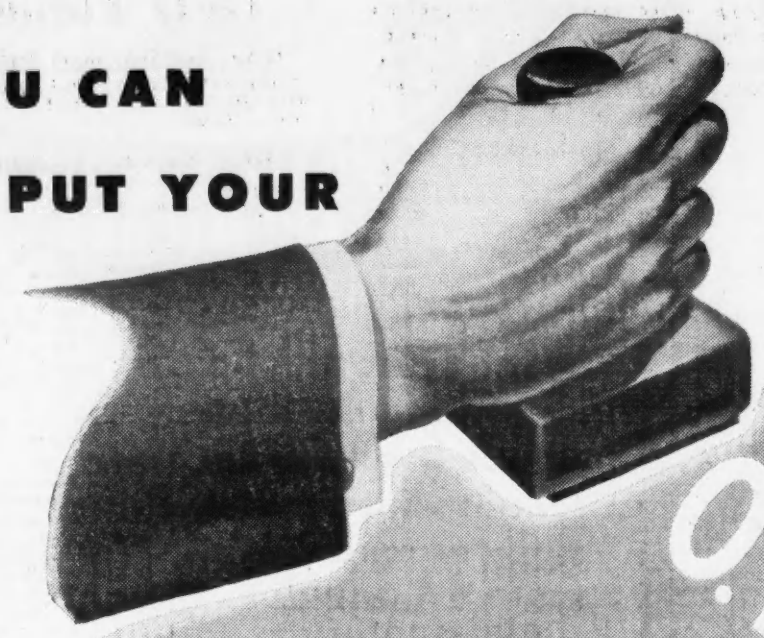
DDT Problems Studied

DDT is providing agricultural scientists with many leads for productive research for an ideal insecticide that will protect crops when protection is needed the most and leave no residual problem. Scientists don't hope to reach this ideal, but they are convinced that DDT and related products makes this goal approachable.

Unlike rotenone and pyrethrum, DDT is poisonous to warm-blooded animals and many cold-blooded creatures. It is relatively stable to the effects of both oxygen and sunlight, and thus has lasting qualities far superior to rotenone and pyrethrum. But the pure chemical is more stable than the technical grade, and a study of these impurities may indicate additions that can be introduced to cause DDT to break down and cease to be poisonous within a limited number of days.

DDT presents a residual problem not uncommon to such inorganic compounds as arsenic, lead, copper, mercury, or fluorine, because it is more soluble in oils than in water. It is hard to remove from apples and orange peels because it tends to remain dissolved in the wax or oil of the fruit. Scientists hope to find and make use of the

YOU CAN PUT YOUR



O.K. on OXALATES

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YOU will find six different oxalates in the most recent product price list of Chas. Pfizer & Co., Inc. As you go through its pages, you will come across, in order: Ammonium Oxalate Technical, Iron and Ammonium Oxalate (Ferric), Iron and Potassium Oxalate (Ferric), Iron and Sodium Oxalate (Ferric), Iron Oxalate Granular and Potassium Oxalate Neutral Technical.

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Heavy Chemicals

Shortages of chlorine, soda ash and caustic were as pronounced last week as at the beginning of the month. Some sizable additional orders were in the market for chlorine without finding suppliers, while the serious scarcity was reflected in an increased inquiry for bleaching powder, ferric chloride and other chemicals where chlorine is an essential agent. The authorization of heavy export quotas of soda ash and caustic soda for the last quarter did not attract unusual attention because no such quantities are available for foreign shipment. Aside from the alkali classification, buying interest was somewhat irregular, but averaged fair. It was stated that the placing of contracts in caustic potash and potassium carbonate has taken care of a substantial amount of tonnage for 1948 and future sales of anhydrous and aqua ammonia have been fully equal to seasonal expectations. No improvement could be noted in stocks of carbon tetrachloride and sodium sulphide was definitely short for immediate or prompt shipments.

Sodium silicofluoride prices were established at lower selling levels during the week. Production of this material is said to have leveled off demand and stocks have been increased by importations from North Europe. White powdered arsenic remained exceedingly scarce with imported arsenic commanding a substantial premium over the domestic contract price. Copper sulphate continued to move freely to the Pacific coast. Buying conditions in sulphuric acid showed no significant signs of improving. Monochloracetic acid was priced higher and an advance in price was noted in pyroligneous acid. There was enough sodium sesquicarbonate to meet requirements. The chlorates maintained the same tight condition recently noted. The copper, manganese and nickel based chemicals appeared adequate to meet current wants. Salt cake was short of demand. Technical epsom salt was about on even beam and so was zinc sulphate and carbon dioxide. Sodium nitrite stocks were kept down by a persistent demand from the major consuming industries. Improved supply conditions have resulted in lower prices for thallium sulphate.

Paper production based on a percentage of six-day capacity was 110.2 percent for the week ending November 8, according to the American Pulp and Paper Association. This compares with 111.7 in the preceding week and 111.1 for the corresponding week in 1946.

Ammoniac, Sal—Production of white granular has made considerable progress in leveling off contract requirements. Shipments are said to be only slightly behind schedule regardless of an unusually heavy demand. Producers are not inclined to consider additional business until the market is permanently restored to a normal position.

Ammonium Bicarbonate—Bakeries and other consumers are able to satisfy requirements for this chemical in full. Production has kept stocks in a favorable condition and immediate shipments are available at prices current.

Arsenic—Heavily sold ahead position of arsenic has prevented any easement in the supply situation. Occasional importations of European arsenic are said to have found a ready outlet to the ceramic trade at 10c. to 11c. per pound. An arrival of 111 barrels and 450 kegs from Poland was noted during the week.

Bleaching Powder—Supply situation has remained tight with demand active and prices firm. It is stated that the current shortage of chlorine has resulted in increased buying interest in bleaching powder and producers are under pressure to meet requirements.

Calcium Chloride—Supply position has shown no signs of improvement. It is stated that backlog orders are of sufficient volume to maintain a tight market indefinitely. Some producers do not look for an open market over 1948.

Carbon Tetrachloride—Industrial demand for the technical grade is running ahead of current production and shipments are behind scheduled requirements. Buying conditions have continued tight with the price situation firm.

Chlorine—Continued shortage of tankcars has interfered with production of chlorine. Limited storage facilities make it essential to move this material from works promptly and the scarcity of tankcars has proved a serious bottleneck in the distribution of material. Stocks are no more plentiful than noted a week ago.

Copper Chloride—Producers are meeting requirements promptly in most instances. Shipments of crystals were slightly behind schedule early in the month but seem to be about leveled off at present. Former prices are firmly sustained.

Copper Hydrate—Market position steady with buying interest maintained at a satisfactory seasonal average. Stocks have continued equal to demand with additional quantities available for prompt shipment.

Epsom Salt—Supply situation for technical has continued to show improvement. Producers have made considerable progress in leveling off backlog orders and the market condition has been brought into better balance than for some time.

Ferric Chloride—Increased buying interest has tightened the supply condition of this market since the beginning of the month. Demand for treating the disposal of sewerage has mounted under the serious shortage prevailing in chlorine and production has been overtaxed. It is stated that prospects for improvement in stocks will depend largely on the availability of chlorine.

Glauber's Salt—Maintenance of a steady industrial demand has prevented any accumulation of stocks. The glass, dyestuff, paper and various other industries have been in the market for this chemical and production has been under pressure sufficiently to keep buying conditions tight and prices firm.

Manganese Carbonate—Sales of seasonal dimensions are reported at former prices. Production has been maintained at a level to meet requirements and buyers are not finding it difficult to place orders for prompt shipments.

Nickel Carbonate—Consumers have not experienced difficulty in covering requirements of this chemical. Production has kept stocks available for prompt shipment with buyers showing a disposition to limit transactions to actual wants.

Nickel Chloride—Not in as free supply as some of the other nickel based chemicals, but stocks sufficient to meet consuming wants at the present time.

Nickel Formate—Producers have been able to secure enough formic acid to sustain production. Prompt shipments have continued available at former price levels.

Nickel Sulphate—Platers have been able to cover requirements in full. Buying interest has been confined mostly to actual wants while the total amount of business passing has shown some expansion so far this month.

Olivine—Industrial demand described as normal with stocks maintained at a level to permit prompt shipments. Buying interest confined chiefly to furnace manufacturers who desire a lining for open-hearth steel and other furnace uses. Prices firm at current levels.

Potash Caustic—While the liquid grade in tankcars has continued available for immediate shipment, consuming demand for the other forms has been of broad enough dimensions to hold the supply situation tight. Prices are firm at current levels.

Potassium Carbonate — Market position has continued steady at the late advance. Industrial demand has remained active and far enough ahead of production to maintain an exceedingly tight buying condition for all forms.

Potassium Chlorate — Advance of the month has not occasioned any significant improvement in the supply situation. Although the greatest demand emanates from the match factories, there is a well distributed inquiry for prompt shipments from various other consuming sources.

Soda Ash—Producers continue to allocate shipments to contract consumers and this has represented the week's movement. Distribution has been broad enough to ease

For Late Market Developments, See Page 4

Market Trends

Prices Advanced

Monochloroacetic acid, tech., ½c. per lb.
Pyroligneous acid, 2c. per lb.

Prices Reduced

Sodium silicofluoride, 1½c. per lb.
Thallium sulphate, $5 per lb.

Comparative Price Indexes

(1926=August 1, 1914)

General Chemicals

Last week.	Prev. week.	Last month.	Last year.
202.3	202.3	201.3	173.5

Acids

Last week.	Prev. week.	Last month.	Last year.
119.5	119.5	119.5	116.3

(For Current Prices see Page 9)

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some of the pressure for deliveries but the market has remained in an exceedingly tight position with no nearby relief in sight. The official authorization of licenses for 62,000 tons of soda ash for export over the last quarter looks big at this time. It would be interesting to know where anything like this tonnage could be purchased.

Soda, Caustic—Contract consumers are taking all the caustic soda that producers can ship but the combined movement is considerably behind requirements. It is stated that the supply situation at present is exceedingly tight for all forms and will likely remain so indefinitely. Judging from conditions current, the prospects of filling an export quota of 72,000 tons over the last quarter do not appear very favorable. Caustic soda output in the United States zone of Germany rose from 2,350 tons in the first quarter to 11,521 in the second quarter. Production in July was 3,363 tons. Production of soda ash increased from 3,983 metric tons in the first quarter of 1947 to 16,125 in the second quarter. Output in July was 6,271 tons.

Sodium Chlorate—Stocks were no more plentiful than noted in the preceding week. Industrial demand has held at an unusually high level and has exceeded output temporarily. Producers have found difficulty in obtaining enough boxcars and shipments are behind contract schedules. Buying conditions were definitely tight at the close of the week.

Sodium Silicofluoride—Lower prices have been made effective for this chemical. Carlots at the works are quoted at 6¼c. per pound in barrels and at 7c. per pound for smaller quantities. Demand at present is not of an urgent character and stocks are relatively free. Importations last week included 410 barrels from Copenhagen.

Sodium Sulphide—Producers have not made much progress in leveling off the active demand for the different grades of this chemical. There is said to be heavy backlog orders that are to be satisfied and there are no indications at present of any nearby easement in buying conditions.

Thallium Sulphate—Lower prices have been made effective for this chemical. The price range is from $15 per pound to $17.50 per pound, the inside figure representing 10 pounds or more and the outside figure representing from one to four pounds. Prices are on a delivered basis within the United States. It is stated that while thallium sulphate is not as freely available as before the war, the supply situation has shown marked improvement over the stringent conditions that have prevailed for the last few years. Moderate quantities are now available for immediate shipment.

Zinc Sulphate—Buying interest of normal dimensions is reported in this material. Some improvement is noted in the demand for agriculture while the glue, rayon and chemical industries have all shown attention. There has been a tendency to keep operations within the limit of actual requirements, but the aggregate volume of sales has been of satisfactory dimensions. Pressure for shipments of crystals has kept the supply of this grade relatively tight.

Acids

Hydrofluosilicic—Buying interest of normal dimensions is reaching this market. Sales are reported for sanitation requirements and also for uses in the chemical, paint and varnish trades. Maintenance of output has kept stocks adequate to meet requirements promptly.

Monochloracetic—Termed chloracetic acid by some of the major producers, is priced higher at 17½c. per pound for barrels in carlots and at 18½c. to 19½c. for smaller quantities of technical 97 percent flakes at the works.

Naphthenic—Continues to find a steady outlet for solvent uses mostly in the chemical and resin industries. Stocks are not free but are meeting essential requirements on a fairly prompt basis.

Nitric—Firm under a steady demand for nitrating uses and for requirements in the chemical, dyestuff and intermediate trades. Stocks not free but meeting contract schedules on a fairly prompt basis. Producers still experiencing difficulty in securing sufficient glass carboys.

Oxalic—Continues definitely short of demand with shipments considerably behind heavy backlog orders. Current movement confined to contract accounts with producers not in a position to consider new business at the present time.

Pyroligneous—Higher prices are named by producers. Material ex-warehouse is

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held at 43c. per gallon and at 31c. a gallon in barrels f.o.b. the works. Consuming demand is limited with some attention from food interests in Pennsylvania and some from the chemical trade.

Sulphuric—Buying conditions have not improved to any appreciable extent since the turn of the month. Regular consumers are receiving shipments but the open market is not in free supply where tankcars are desired. Producers have been experiencing a shortage of tankcars and glass carboys since the beginning of the last quarter. Demand is sustained at a high level and the price situation is firm.

Non-Ferrous Metals

Aluminum—While primary aluminum production held at a very high peacetime rate in the first eight months of the year, apparent consumption showed a fairly steady decline for five months and then rose more rapidly through August, according to the Bureau of Mines. In that month that trend was sharply accentuated. Not only was the relative as well as actual change greater than at any other time during the year, but apparent use was 22 percent, or more than 10,000 tons greater, than production. Absorption of new metal also was larger than the output in any month since August, 1944. As a consequence, producers' stocks dropped nearly 14 percent. Scrap markets, in turn, were somewhat firmer with moderate increases in prices of some grades. Some secondary ingot makers raised prices slightly, especially for the lower deoxidizing grades. Production of primary aluminum metal in the United States in August was 47,054 tons, compared with 47,998 tons in July. Stocks on August 31 were 67,515 tons, against 78,054 tons at the close of the preceding month.

Copper—Demand for November and December shipments has continued active enough to create a slightly firmer feeling in the market although no new price changes were recorded. It is stated that output for this month is almost entirely under contract and that demand for shipments over the balance of the year is increasing rapidly.

Lead—Production of lead in September was virtually unchanged from August, indicating a slight gain on a daily average basis, according to the Bureau of Mines. The July to August monthly average is about 9 percent below that for the April-June quarter. Production in central states was unchanged from August and in western states was 2 percent less. Of the important lead-producing areas Montana had the largest drop of 8 percent and Idaho the only gain (1 percent). The drop in Montana's production may be attributed largely to lessened output from Butte, whereas Utah's 6 percent decrease cannot be attributed to a single factor. An important producer of copper, lead and zinc in the Bingham district, ceased operations in August because of the expiration of premium prices. Among smaller lead-producing states, California's output rose 23 percent and New Mexico's 12 percent, whereas Nevada's dropped 24 percent. The substantial gain in California was caused by an increase in output in Coso district, Inyo County. The movements in New Mexico and Nevada, on the other hand, resulted from changes at a number of operations. Production of lead in the Metaline district, Washington, increased in September. An important producer of lead and zinc in the same district, ceased production late in August to conduct development during the next several months. Total production of recoverable lead in the United States in September was 29,655 tons, compared with 29,895 tons in the preceding month.

Selenium—Market position is firm under a steady demand from the glass industry. Persistent buying of late has kept available stocks at a relatively low level. Prices were unchanged.

Silver—Prices of silver bullion followed a relatively steady course during the past week. Trading was not unusually active and demand and supply appeared to be mostly in balance. The official closing price was 74⅝c. per ounce in New York.

Silver Bullion Price Range

	Per ounce— New York	London
High	Mar. 6—86¼c.	Jan. 2—35½d.
Low	June 20—59⅝c	June 20—39d.

Tin—Official advices from Bolivia state the surtax on exports of tin by the Bolivian Banco Minero has been reduced to assist the small tin producers in that country. Under existing law, the so-called small producers must sell all production to the Banco Minero, which acts as a central purchasing and sales agency for this group of miners. The bank then exports the tin and pays all export taxes. The normal surtax on tin exports is 20.5 percent of the value. The bank, under the new decree, is authorized to pay a surtax of only 10 percent on tin coming from the small producers. The saving in tax assessment is to be paid by the bank for tin purchased from this group.

Zinc—Mine output of zinc in the United States in September was placed at 47,679 tons by the Bureau of Mines. August production was revised to 48,306 tons. The average monthly output in the third quarter was 18 percent below that in the second quarter of the year. Output in eastern and western states areas declined slightly in conformance with the shorter month. Production in central states, on the other hand, rose 3 percent, but this area produced only half of the average monthly rate in April-June. The over-all small drop in western states' output was the result of varied movements in individual states. Among important zinc-producing states in this area Idaho, Arizona, Utah and Nevada showed declines that exceeded the difference in length of the month, whereas New Mexico and Washington had gains. In Idaho the decrease was due mainly to the closing for repairs, during all of September, of a major producer near Kellogg. Decreases in Arizona, Utah and Nevada resulted from smaller outputs at several properties.

Virginia Blair, formerly of Memorial Hospital, New York, has joined Southern Research Institute, Birmingham, Ala., where she will continue her research in organic chemistry.

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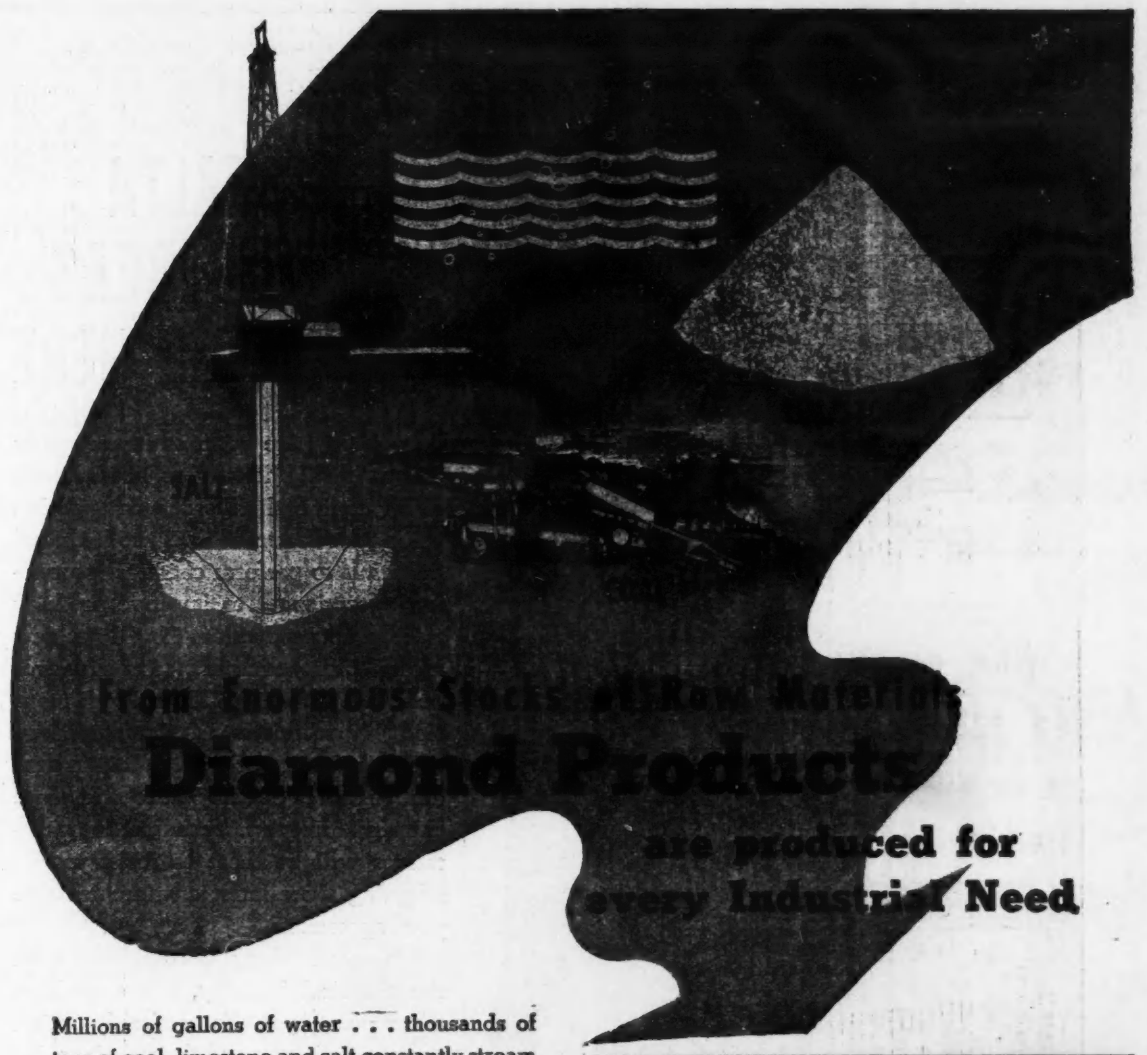

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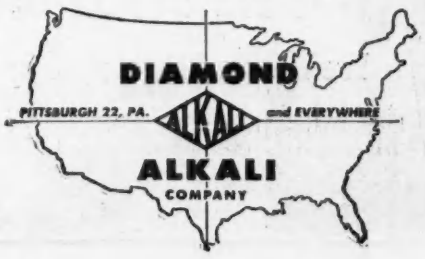

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European Fertilizer Needs

—Continued from page 5

could be made much in excess of current allocations this year, although it was believed that it would be possible to increase nitrogen exports from the United States considerable above the current level for the 1948-49 season.

It was the view of the committee that United States exports could be enlarged without imposing any great hardship upon present consumers. The report suggested that this be done by limiting 1948-49 consumption to the current year's level and that effort be made, beginning now to fully utilize existing capacity of production in the government-owned plants.

Ordnance plants at Etter, Texas; Henderson, Kentucky, and Morgentown, W. Va., are now being used by the Army to produce synthetic ammonia, which is processed at other locations into grained ammonium nitrate for shipment to occupied zones in Germany, Japan, and Korea. This decentralized operation requires the movement of anhydrous ammonia by high-pressure tankcars to solution plants, and the movement of the solutions to graining plants.

The committee said that increased production could be achieved and savings in production costs could be accomplished by installing at the ammonia plants equipment to permit integrated production of finished fertilizer. Also it was noted that there is an uncompleted ammonia unit at the Cactus plant at Etter, Tex., which could double the output of that plant if put into operation, and that there is available for disposal at the Louisiana and Missouri Ordnance Works two ammonia units having a combined capacity of 100 tons a day. In view of these conditions, the Harriman committee recommended that the following actions be taken at the earliest possible time:—

1. Establishment of full production from the presently unused synthetic ammonia capacity owned by the government.

2. Construction of facilities required at these plants to permit the production of finished fertilizer-grade nitrogenous materials in integrated operations. Consideration should be given to the possible production of urea compounds in addition to ammonium nitrate and ammonium sulphate.

3. Sale or lease to private interests of the government-owned facilities with provisions to assure continued production and availability from them of fertilizer materials for such times as the need continues. If this cannot be effected, then continued government operation as an emergency measure.

It was the view of the committe that every effort should be made to assure Europe of increased supplies of nitrogen for fertilizer so as to lessen the strain on American agriculture to supply food. Attention was called particularly to the fact that the United States has enjoyed several years of unusually good weather which can not be expected to continue indefinitely. Therefore, it behooves the United States to assist Europe in every way possible in getting back on her feet as quickly as possible to meet her own food requirements.

The committee, however, had some fault to find with the estimates contained in the Paris conference on the amount of food it could produce if given the nitrogen it requires. The report said:—

"According to the plans, nitrogen used in 1950-51 would be roughly 800,000 tons above the 1934-38 average while potash and phosphate use would each be up about 1,000,000 tons. Properly applied, these increases in fertilizer use should increase crop and forage production above prewar levels. For example, 500,000 tons of nitrogen applied to grain crops should increase grain production by perhaps 6,000,000 tons, other factors (including weather) being equal. In some of the Southern European countries where fertilizer use is small and grain yields low the proportionate effect might be even greater. Phosphates and potash produce roughly comparable results on root crops.

"In view of these considerations, the committee believes that the Paris conference estimates of crop production in 1950-51 are somewhat conservative. It is true that many other factors will affect farm production, including the morale of farm people. Accumulated deficiencies both in animal manure and commercial fertilizer (particularly phosphates and potash) are still having adverse effects on crop production at present. By 1950-51 these deficiencies should have been largely made up if the fertilizer and livestock production programs are realized."

Other statements in the report on the fertilizer situation included the following:—

"In the case of nitrogen, there is a worldwide shortage at present which is likely to continue during at least the early part of the Marshall plan period. Nitrogen production in some European countries is above prewar levels, while in others it is substantially below prewar. A large amount of prewar nitrogen capacity in Europe is currently out of production due to war damage and lack of steel for repairs.

"In Western Germany particularly, it is the policy of the occupation authorities not to restore certain facilities which are particularly suitable for the production of munitions. However, there is substantial capacity even in Western Germany which could be brought back into production if steel and equipment were made available to carry out the necessary repairs. There is also substantial damage to capacity in other countries where security considerations are not involved. The committee feels strongly that top priority should be given to the provision of steel and equipment to repair war-damaged nitrogen fertilizer plants as rapidly as possible, and to the allocation of adequate supplies of coal to operate them to capacity.

"In the Spring of 1947 it was reported that a considerable volume of nitrogen capacity was not utilized solely for lack of coal. A survey made by the Paris conference representatives a few days ago indicates that this situation has been fully corrected in most of the participating countries. Apparently, further increases in production must come for the most part from repairs or expansion of plant and facilities.

"As in the United States, some of the existing synthetic ammonia facilities are being used to produce nitrogen for industrial uses or products such as methanol which can be made with nitrogen facilities. Recent information from some of the Paris conference countries indicates that ammonia capacity is in excess of the capacity for producing finished fertilizers. The committee feels that this situation may well call for the development of integrated finishing facilities at or near some of the excess ammonia capacity, as is recommended in the case of United States ordnance plants."

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Insecticides Use Urged To Aid Grain Saving

General application of up-to-date insect control measures to conserve grain would in itself enable the nation to meet the 100,000,000 bushel goal set by the Citizens' Food Committee, Dr. H. L. Haller of the bureau of entomology and plant quarantine, United States Department of Agriculture, declared at a recent meeting of the North Jersey section of the American Chemical Society.

Pointing out that insects destroy annually 300,000,000 bushels of stored grain worth $600,000,000, Dr. Haller said that although 100 per cent control of insects is virtually unattainable, much of the annual loss can be prevented. A recent survey indicated that only 5 per cent of the grain stored on farms receives adequate protection against the ravages of insect pests, he reported, stating that 97 percent of the nation's corn crop, 94 percent of the oats, and 60 percent of the wheat are stored on farms at some time during the year.

Application of DDT sprays with lasting effect to empty wooden storage bins is one of the measures recommended by the bureau of entomology and plant quarantine, Dr. Haller said. Another is treatment of seed grains with a dust containing three percent of DDT at the rate of a half ounce for each bushel, or with non-poisonous dusts, such as magnesium oxide, at the rate of an ounce per bushel. Fumigation of farm-stored grain should be intensified, he declared, pointing out that improved storage facilities including tighter construction of bins would increase the effectiveness of fumigation.

Chemical Reparations Plants Bids Close January 8

OPD Washington Bureau

The Office of the Foreign Liquidations Commissioner has announced that bids for the two German chemical plants offered for sale to American industries on October 2 will be accepted until January 8, 1948. The extension of time from the original bid-closing date of December 10 was granted in order to allow United States industrial representatives to examine the properties.

The plants, which include units for the production of formaldehyde, pentaerythritol and plastics, are the Paraxol factory at Lippoldsberg and the Dynamit A. G. plant at Geestacht-Krummel. Inventories and further information can be obtained from the general disposals division, OFLC, Fourth and Jefferson drive, S.W., Washington 25, D. C.

At the same time, the agency announced that Permanente Metals Corporation was the high bidder for the dismantled aluminum foil plant which was the first German reparations plant offered to industry in this country. The corporation, which bid $203,769 for the plant, plans to bring it to this country for use if it is awarded the factory.

DuPont 'Semesan' Now Retail Products Division

E. I. du Pont de Nemours & Co., Wilmington, Del., has changed the name of its "Semesan" division to the retail products division, and has named Joseph A. Jenemann manager of the division. He was formerly manager of sales development of the Grasselli chemicals department.

Assisting Mr. Jenemann are Leo L. Stirland, in charge of the "Semesan" section responsible for the promotion and sale of seed disinfectants, and James H. Dunbar, jr., in charge of the garden products section responsible for the sale of household and garden products.

Mr. Jenemann joined the du Pont organization shortly after graduating from the University of Pennsylvania in 1922. He started as a laboratory chemist and in 1924 was moved to the manufacturing division, where he stayed until 1927. For the past ten years he has been with the Grasselli department.

Trade Briefs

Chemical products, fertilizers, paper goods, ceramics and other products will be imported into Netherlands from Belgium under the terms of a trade agreement signed recently.

Alwyn A. Throckmorton has been appointed regional director of the War Assets Administration for Region II, comprising New York State, northern New Jersey and Fairfield County, Conn. He replaces Carl P. Malmstrom, who recently resigned.

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USDA Makes First Annual Honor Awards Presentation

OPD Washington Bureau

The Department of Agriculture last week made the first annual presentation of U. S. Department of Agriculture Honor Awards under a program initiated by the department to recognize exceptional or meritorious contributions of its employees to efficient and constructive public service.

Distinguished service awards were presented to the following individual employees and units, among others, for the contribution stated:—

Hugh H. Bennett, soil conservation service:—For his achievement in the field of soil and water conservation which benefited American agriculture and contributed to the welfare of people throughout the world.

Dr. James F. Couch, bureau of agricultural and industrial chemistry, Wyndmoor, Pa.:—For research on the utilization of constituents of agricultural commodities which led to the discovery that rutin is an active agent in reducing fragility and other capillary disorders in man.

Northern Regional Research Laboratory, Peoria penicillin group, bureau of agricultural and industrial chemistry, Peoria, Ill.:—For agricultural research which made an invaluable contribution to medical science by making the mass production of penicillin possible.

Orlando Florida Laboratory, bureau of entomology and plant quarantine, Orlando, Fla.:—For development and application of means of protecting military personnel against attack by insects and diseases spread by insects.

Superior Service Awards were presented to the following individual employees, among others, for the contribution stated:—

Dr. Charlotte H. Boatner, bureau of agricultural and industrial chemistry, New Orleans, La.:—For her chemical research on cottonseed and its products, which led to the development of a new and revolutionary method of processing cottonseed.

Kenneth D. Jacob, bureau of plant industry, soils and agricultural engineering, Beltsville, Md.:—For his research on world phosphate resources, technology, and the use of phosphatic materials, including the initiation of the one step thermal method of producing available phosphate material from raw phosphate.

Dr. George S. Jamieson, production and marketing administration:—For chemical investigations and publications in the field of fats and oils and oil-bearing seeds which have greatly contributed to the national welfare and received wide recognition.

David Breese Jones, bureau of human nutrition and home economics, Beltsville, Md.:—For his contribution to science through research into the chemical nature, digestibility and biological value of proteins and their constituent amino acids.

William J. Morse, bureau of plant industry, soils and agricultural engineering, Beltsville, Md.:—For his contribution to American agriculture by research on soybeans which has resulted in their development as a major agriculture crop.

Carl E. Rist, bureau of agricultural and industrial chemistry, Peoria, Ill.:—For his development of the batter process which resulted in the increased production of vital food stocks during the war, particularly the production of sweeteners, starch and gluten from wheat flour.

Sievert A. Rohwer, bureau of entomology and plant quarantine:—For his outstanding service to agriculture through his contribution to the conservation and maximum utilization of the nation's supply of insecticides during the war, when our source of supply was cut off or seriously restricted by military operations.

South American Minerals Import Firm Formed

South American Minerals & Merchandising Corporation has been formed to act as sales agents for ores and mineral concentrates of Latin American producers to the government and private smelters. Herbert Lorenz, formerly of the American Cyanamid Company, is president of the new organization.

Huppert Company Announces New Tunnel Kiln

The K. H. Huppert Company, Chicago, has produced a new tunnel kiln which it is recommending for small batch production work and heat treating of small parts on a production basis. Inquiries should be directed to K. H. Huppert, president, K. H. Huppert Company, 6830 Cottage Grove avenue, Chicago 37.

Normande Patent to Be Devested

The Office of Alien Property has given notice of its intention to return to the Societe Normande de Produits Chimiques, December 8, United States patent No. 2,289,286, vested by the Alien Property Custodian in April, 1943. The return will not be deemed to include the rights of any licensee under the patent.

Velsicol Corp. Moves

The Velsicol Company has moved into its new headquarters at 330 East Grand avenue, Chicago 11. It is an office and laboratory building occupying three floors.

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Fertilizer Importation Into Poland Advised

OPD Washington Bureau

A recommendation that the Polish government import, if possible, chemical fertilizers equivalent to 45,000 metric tons of plant nutrients was made last week by a special mission set up by the Food and Agricultural Organization to study Poland's agricultural problems.

The recommendation calls for 15,000 tons of nitrogen, 10,000 tons of phosphoric acid, and 20,000 tons of potash. These amounts of fertilizer, in addition to domestic production and imports already provided for, are needed because of a great decrease in the supply of stable manure resulting from tremendous loss of farm animals during the war, it was stated.

Eston Chemicals Announces New Phosphate Insecticide

Eston Chemicals, Inc., Los Angeles, has announced the immediate availability of a new organic phosphate insecticide, which it calls "Tetron". The new product is said to have more than twice the killing power of hexaethyl tetraphosphate and to possess an extended period of effectiveness that makes it a potentially valuable ingredient in dust insecticides.

The product is available in three concentrations: straight chemical; 50 percent chemical and 50 percent solvent and emulsifier, and 25 percent chemical and 75 percent solvent and emulsifier. Further information can be obtained from the company at 3100 East Twenty-sixth street, Los Angeles 23.

Czech-Russian Trade Pact Being Negotiated

Czechoslovakia is reported to be negotiating an agreement with Russia whereby Czech machinery and manufactured goods will be shipped to Russia in exchange for such commodities as potash fertilizer, oilseeds, legumes, manganese, chrome, other ores and phosphates. Clothing and foodstuff materials will also be exchanged between the two countries if the arrangements are completed.

French, Swiss Sign New Trade Agreement

By the terms of a new agreement, Switzerland will import specific quotas of French calcinated alumina, phosphates, potash fertilizers and Thomas slag in addition to the traditional French exports of perfumes and chemical products. In return, Swiss exports to France will include metal and chemical products.

Blaw-Knox Publishes Bulletin

Blaw-Knox Company, Pittsburgh, has published an illustrated bulletin entitled, "Complete Plants and Equipment for the Process Industries," which reviews equipment and applications for resin and varnish production, organic synthesis, liquefied gas handling, electro-vapor heating systems, rubber reclaiming, molding resin production, fat splitting, oil and fat hydrogenation, gas dehydration, high pressure processing and solvent recovery. Copies of the publication, bulleting 2204, may be obtained from the company.

Fertilizer Association

—Continued from page 5

on to the farms, an increase in output far more than double the average of the immediate prewar years. He added that the association estimates that the industry now has a capacity for producing 20,000,000 tons of fertilizer annually, and he said that capacity will be used to the fullest extent.

Cooperation of the fertilizer industry with the government in the execution of the Marshall plan, if and when it is adopted, was also pledged by Mr. Noble. "According to the general report of the Committee of European Economic Cooperation," he said, "a great increase is eventually planned in the output of fertilizers in Europe, but at present there remains a big gap between supplies and total requirements of nitrogen and potash—a gap which, it is said, can only be filled by imports from outside the area.

"Particularly is this true in the case of nitrogen, for during the first three years of the period under review there remains an import requirement which can be met only by supplies from the American continent. In 1947-48 this requirement is of the order of 20 percent of the total requirement. Thus, according to the plan, this coming year, there must be furnished 290,000 metric tons of nitrogen in the terms of N. If such an amount is furnished, it would represent a substantial proportion of the production of this continent.

"Most assuredly the fertilizer industry is a patriotic industry and will do its best to cooperate with government. Nevertheless, one point may well be established—that any fertilizer shipped under the Marshall plan will to that extent limit the amounts that will be available to American farmers."

Anhydrous Ammonia Use

The use of anhydrous ammonia as a source of nitrogen was described by W. B. Andrews, associate professor at the Mississippi State College and Agricultural Experiment Station.

Dr. Andrews stated that the acreage which will be fertilized with anhydrous ammonia in 1948 promises to run well into the millions. He declared that its use has moved quickly into the delta of Arkansas and Louisiana and it is now spreading into the hill section of Mississippi. It is his understanding, he said, that it is in the process of getting a start in Alabama, Florida and some of the Middle Western states.

During 1947, Dr. Andrews declared, more than 200,000 acres of corn and cotton were fertilized with anhydrous ammonia, and more than 400 operators, without prior experience, have applied anhydrous ammonia without serious difficulty. He presented data on the basis of experimental work on the use of anhydrous ammonia for crop production, and said the information shows that:—Anhydrous ammonia is equal to, or superior to, ammonium nitrate for row crop production; deep application of nitrogen used for side dressing in dry years is essential; anhydrous ammonia is a satisfactory source of nitrogen for oats—however, there are problems in using it for top dressing; the choice between anhydrous and aqua ammonia depends upon total cost applied to the land; satisfactory equipment has been developed for applying both aqua and anhydrous ammonia; about 200,000 acres of row crops have been fertilized with anhydrous ammonia this year, most of which was in Mississippi, and anhydrous ammonia may be applied in combination with other cultural operations.

Problems Under Irrigation

Omer J. Kelley, principal soil scientist in the agronomy department at Colorado A. & M. College, in a discussion of fertilizer problems under irrigation, declared that under irrigation the hazard of drouth has been greatly reduced and consequently there exist possibilities for high production.

"While the possibilities of getting larger returns are greater due to the elimination of drouth," he said, "the financial risks are greatly increased unless superior yields are assured. It is, therefore, necessary under irrigation to strive for maximum production. Today I have presented the results of experiments in various parts of the irrigated region showing economic use of fertilizers, fertilizer problems, and responses in these various areas.

"Maximum results can be obtained only when other important factors affecting plant growth approach optimum conditions. It is important to know not only the nutritional requirements of specific crops but also to be acquainted with fertilizer programs for specific rotations and cropping systems."

Giving the Farmer Facts

Stating that there is no justification for the invasion by the government into the fertilizer business as proposed in bills pending before Congress, L. R. Neel, editor of the "Southern Agriculturist," declared a challenge confronts the industry to see that the farmer is given the facts.

"We must also see that the farmer gets his fertilizer materials at as low a cost as is consistent with fair profits," he said. "Let us take away the mystery and tell the fertilizer story. Let us make larger use of dealers to tell the story about plant food. Some time might well be spent on dealer education.

Mr. Neel said that the story that fertilizer companies tells farmers might apply itself more directly to the task of education, and that the experiment stations possibly might help with the problem by some simplification. He said that the extension departments of the colleges, the vocational agricultural teachers, the soil conservation service and supervisors of Farm and Home Administration likely can redirect their efforts so that they can help much more with "this most complicated and most vital problem" of the farm, the conservation and wise use of the soil and its fertilization.

"Finally," he said, "I come to the press. Through the county press the colleges have a fine opportunity for promoting education as to the handling of soils and the use of fertilizers, that they are failing to make full use of. Too, the farm press can increase its efforts to get fertilizer facts to the public. This can be done by carrying as much educational matter on plant nutrition and soil building as space will permit, and by supporting editorially all sound fertilizer programs."

Agricultural Chemicals

Cyanamide is now established at a higher selling level with more demand than supply. No easement in buying conditions could be noted in either ammonium nitrate or sulphate and there is no indication of freer stocks in sight. Irregular improvement is reported in the number of boxcars made available for the shipment of potash. Producers are allocating stocks, but admit that the transportation outlook is decidedly uncertain. The condition in phosphate rock is similar and both materials are experiencing an exceedingly heavy demand. Resumption of activity at several of the smaller fertilizer plants has increased the pressure for shipments of mixing materials and the overall supply situation is definitely tight at the present time.

Fish meal is priced higher. Dried blood was advanced in the West, but unchanged here. Local tankage prices were increased to a parity with Chicago. Bone meal was firm with most of the production under contract for the remainder of the year. Some sellers were higher for hoof meal although no sales were reported. In the insecticide market lower prices have been established for pyrethrum flowers and liquid, and a decline was also registered in cube root.

Nitrogenates

Ammonium Sulphate—Sales in September were placed at 133,095,280 pounds by the Bureau of Mines. Sales in August amounted to 141,033,776 pounds and in September last year 123,552,400 pounds. Total sales from January 1 through September amounted to 1,206,574,629 pounds, compared with 903,898,500 pounds for the corresponding period in 1946. No easement could be noted in the demand from mixers. Producers have remained under heavy pressure for shipments and the market's supply condition has continued exceedingly tight.

Bone Meal—Persistent buying both for feed and fertilizer uses has taken care of most of the production over the remainder of the year. Available stocks of raw and steamed are scarce with the latter variety commanding the most attention.

Castor Pomace—Production reported below normal with shipments confined to contract accounts. No additional sales were noted, the last transaction was at $40 per ton works.

Cyanamide—New contract prices were made effective November 15. The fertilizer mixing grade granular is priced at $2.35 per unit in bulk and the pulverized grade at $2.25 per unit of nitrogen in bags f.o.b. the works.

Dried Blood—Feeding demand was not of an urgent character. Scattered sales were recorded at $10 per unit here and at $9.75 per unit of ammonia in Chicago. Some selling interests look for an improvement in the buying movement with the advent of colder weather.

Fish Meal—Priced higher in the Baltimore area. Ground 60 percent protein in bags is held at $145 per ton and 65 percent at $155 per ton. Fishing operations are closed in the Chesapeake Bay section with limited operations in progress off the North Carolina coast. Offerings were limited with feeders the principal buyers. Scarcity of scrap at present has left the market in a nominal condition.

Guano—Peruvian guano production in 1947 is forecast at 150,000 metric tons, larger than earlier estimates and greater than output in recent years. Government allocations of fertilizers have favored production of food for domestic consumption rather than export crops, and certain industries, such as sugar, are receiving considerably less than the amounts requested.

Sodium Nitrate—Market position firm but without change in prices. Domestic production heavily sold against contracts. Chilean nitrate arriving regularly. Inquiry seasonal with buying for future use representing most of the market's activity at present.

Tankage—Sales were reported in Chicago at $10 per unit of ammonia which is an advance of 50c. per unit. New York unchanged at $9.50 per unit. The price differentials were entirely the result of supply and demand and the market has assumed a rather sensitive condition.

Phosphates

Phosphate Rock—Maintenance of consuming demand at an unusually high level has prevented any abatement of pressure for shipments. Acidulators are taking material as rapidly as it can be produced, and the supply above ground has been kept relatively low. While the future outlook appears favorable for an increased production, there is no significant improvement in buying conditions at present.

Superphosphate—No easement in buying conditions could be noted in this market. Production is heavily sold ahead and shipments have been confined almost entirely to contract accounts. The resumption of activities by many of the smaller fertilizer mixers has contributed pressure to an already tight supply situation. The scarcity of triple has continued pronounced.

Market Trends

Prices Advanced

Dried blood, Chicago, 25c. per unit of ammonia.
Fish meal, $5 per ton.
Tankage, 50c. per unit of ammonia.

Prices Reduced

Cube root, 4 to 5 percent rotenone, 7c. per lb.
Pyrethrum flowers, fine ground, 3¾c. per lb. liquid, 25c. to 70c. per gallon.

Comparative Price Indexes

(100=August 1, 1914)

Last week.	Prev. week.	Last month.	Last year.
72.5	72.5	72.5	72.1

Potashes

Shipments from works have continued irregular as a result of the shortage of transportation facilities. The supply of boxcars has averaged better than noted at the beginning of the month, but the outlook is uncertain. Producers have accumulated a sizable amount of backlog orders and are endeavoring to see that contract consumers secure an equal share of material moving. Storage warehouses remain packed, although it is stated that to date production has not been curtailed. Demand from mixers remained exceedingly active.

Cottonseed Hull Ash—First offerings of the season have been made at $1.50 per unit of potash delivered. The supply is limited and prospects at present do not favor much of an output. Tobacco planters are the largest consumers of this material.

Los Angeles Fertilizer Market

Call for agricultural chemicals was good here this week, but supplies were short. Prices for the most part were steady. Ruling prices are:—Ammonium nitrate, $65 per ton with freight allowances up to $4.40 per ton from production plant. Ammonium phosphate, $59 per ton for 16/20 grade and $73 per ton for 11/48 delivered at production plant. Ammonium sulphate—$52.50 per ton with freight allowances up to $4.40 per ton from California plant. Canadian material $46.80 per ton in California. Blood meal, $8.50 to $9 per unit of ammonia at source. Bone meal, $60 to $62 per ton for steamed 1x30 meal. Fish meal, $162.50 per ton f.o.b. Los Angeles dock for 65 percent California sardine meal. Sodium nitrate, $47.50 per ton in 100-pound bags. $4 off for bulk. Potash muriate—53½c. per unit, ex-vessel basis, less 8c. per unit, f.o.b. Trona basis. Bags additional. Potash Sulphate—95 to 98 percent K_2SO_4 in bulk 74c. per unit, f.o.b. Trona. Superphosphate, $18.20 f.o.b. cars Los Angeles bulk, and $22.20 in bags. Tankage, dry rendered, ground 50 percent protein $6.25 to $6.50 per unit of ammonia at production plant, plus 10c. per unit of b.p.l.

Insecticides

Pyrethrum flowers, fine ground 0.9 percent, have been reduced in price to 30c. per pound in barrels. Stocks of the 0.5 percent pyrethrins, said to have been left over from war surplus, have been liquidated and producers are now quoting a 1.3 percent grade at 42c. per pound, both prices are f.o.b. the works. The market is in relatively free supply at present. Cube root is lower at 48c. per pound for 5 percent rotenone in barrels and 38c. per pound for 4 percent in barrels, f.o.b. works. No price changes in rotenone, extract or powdered, was announced. Activity in the general market for insecticides was quiet, with the exception of copper sulphate, which continued to move freely to the Pacific coast.

Sulphur and Pyrites

Mine shipments of native sulphur in September were placed at 393,834 long tons by the Bureau of Mines. The total in August was 463,005 tons, and for the period from January 1 through September, the amount was 3,613,150 tons, compared with 2,920,426 tons for the corresponding time in 1946. September sales, calculated from production ash change in stocks during the period were 401,839 tons, against 385,156 tons in August. Sales from January 1 through September were 3,449,732 tons, compared with 3,881,397 tons for the same time last year. No change in the pyrites market was uncovered.

For Late Market Developments, See Page 4

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Coaltar Chemicals

Steel operations continued heavy last week, as the industry was scheduled to operate at 96.9 percent of ingot capacity, an increase of 0.8 percent over the previous week.

Meanwhile, despite all time high records in coaltar production, the demand for coaltar chemicals of both the basic and intermediate types was so strong that the industry remained essentially under as much pressure as it did in former years. Benzol and totuol were short in a tight market, toluol having become progressively tighter over the last two months by virtue of a generally increased demand stemming from all quarters. Xylol was in a definitely easier supply position although increased demand for this solvent had developed. Production of xylol was more flexible and therefore better able to cope with increasing demand than was the case with benzol and toluol.

Cresols, cresylic acid, and related compounds were still severely short. Demand for the synthetic resin grades of cresol was felt to diminish slightly from the specific use of cresylic formaldehyde type of resins used in the varnish industry. However, any slackened demand from this quarter would go by essentially unnoticed because of the pressure of demand from the plasticizer manufacturers. The overall cresylic picture was one of supplies of all types being far short of demand. Creosote production meanwhile continued at its high rate, characteristic of this year, and the year end picture was predicted as likely to compare favorably with prewar years.

Naphthalene continued to show a gradual increase of production over the year, but demand grew faster than supply leaving the market as critically tight as heretofore, and no relief was anticipated. Prices, however, remained firm. Refined naphthalene was currently undergoing its seasonal slump, making the market easier with spot orders delivered promptly. Phenol supplies were insufficient to go around in the face of strong demand from all quarters. Chlorobenzene was reported to have eased very considerably over the past few months because of the slackened demand for DDT in the manufacture of which monochlorobenzene is a prime intermediate.

According to the American Iron and Steel Institute, the scheduled steel operations of last week set at 96.9 percent of ingot capacity were equivalent of 1,695,700 net tons of ingots and castings. The previous week the rate was set at 1,681,700 net tons, compared with 1,693,900 tons one month ago and 1,607,300 tons a year ago.

Market Trends

Prices Advanced

None

Prices Reduced

None

Comparative Price Indexes

(100=August 1, 1914)

Last week.	Prev. week.	Last month.	Last year.
138.9	138.9	138.6	128.4

(For Current Prices see Page 9)

Basic Products

Benzol—The benzol market continued tight last week under strong demand from producers of benzol aromatic derivatives and aromatic solvent consumers. Prices held firm in their current range of 19c. to 21c. per gallon in tankcars. Coke oven operators, according to the Bureau of Mines, produced during September 864,087 gallons of motor grade benzol, bringing their total for the year up to 12,684,929 gallons while during the same period last year motor grade production totaled 21,166,200 gallons. The drop in motor grade production this year amounting so far to 8,481,271 gallons was more than compensated for by a greatly increased production of 1 and 2 degree nitration grades. During the first nine months of this year coke oven operators produced 31,066,800 gallons of 1 degree benzol as compared with 25,960,200 gallons during the same period last year. During the same period production of 2 degree benzol skyrocketed to 72,487,622 gallons as against 48,857,800 gallons during the first three quarters of last year.

Coaltar—The demand for coaltar chemicals during the year has been so strong that despite increased production the first three quarters of this year of 115,321,196 gallons by coke oven operations over the same period last year, coaltar remains in critical supply. Prices for the remainder of the fourth quarter were expected to hold firm, and coke oven production during the first nine months of this year totaled 544,847,496 gallons.

Creosote—Coke oven operators, according to a release from the Bureau of Mines, produced during September 3,541,963 gallons of creosote which was a drop of 9.9 percent under August. However, during the first three quarters of this year production of creosote from this source totaled some 29,497,951 gallons, an increase of 9,394,151 gallons over the same period last year. Production by tar distillers of course accounts for most of the creosote production and their output has also increased very significantly, making the supply picture this year very much better than it has been in the last several years.

Cresol—Demand for mixed cresols was still far in excess of possible supply, keeping the market quite critical. The pressure of demand for tricresyl phosphate and related resinous and plasticizer materials was such that any slack created by the replacement of cresylic resins by alkyl substituted phenolics would pass essentially unnoticed. Prices were firm, and expected to remain so for the remainder of this year. Imported last week were 47 drums from Liverpool.

Cresylic Acid—No price changes occurred on cresylic acid of domestic production. Demand was tremendously heavy and there was no hope of sufficient materials becoming available in the near future, as imports from Britain continued at a low rate. Imported last week were 421 drums from Liverpool, Melbourne, and Sydney.

Naphthalene—September production of 70 degree crude naphthalene by coke oven operations amounted to 1,332,636 pounds, according to figures released by the Bureau of Mines. This was an increase over August output of 11.8 percent. At the same time, production of the 79 degree crude naphthalene by this source fell off 6.7 percent under August, amounting to 6,676,352 pounds. During the first three quarters of this year, however, coke oven operators produced 12,983,831 pounds of 70 degree naphthalene as against 7,941,000 pounds during the same period last year. Production during the same period of 79 degree naphthalene advanced from 41,365,300 pounds last year to 58,986,505 pounds this year. Prices meanwhile remained unchanged. Demand was much greater than supply, and this situation was expected to prevail indefinitely.

Phenol—Phenol prices were unchanged in the range of 10½ to 11½ cents per pound in tankcar quantities, with the weighted average on the higher level. Supplies remained insufficient to go around despite continued heavy production.

Pyridine—Total production of crude pyridine by all sources was reported by the Tariff Commission and the Bureau of Mines to amount to 68,337 gallons on a dry basis during the month of September, bringing the total for the first three quarters of this year up to 499,952 gallons. Despite this spectacular increase in production, supplies of pyridine were insufficient to meet demand, and a tight market situation prevailed. Production of 2 degree refined pyridine by coke oven operators for the first nine months of this year totaled some 88,161 gallons.

Solvent Naphtha—Refined light solvent naphtha production by coke oven operators was reported at 42,321 gallons in September, bringing the nine months total to 414,941 gallons as reported by the Bureau of Mines. Meanwhile production of the heavy crude naphtha dropped some 12.7 percent under August to 350,157 gallons. The total production of crude naphtha, however, showed an overall increase for the first nine months of this year which brought the total to 3,313,948 gallons as compared with 2,784,700 gallons produced during the same period last year.

Sales of crude heavy naphtha during September amounted to 355,807 gallons leaving stocks at the end of the month of 277,541 gallons. Sales during September were off

Coke By-Products

Estimate of by-product cokeoven operations in the week ended November 8 indicate the following output of by-products from that source:—

Ammonia liquid NH_3	lbs.	1,177,705
Ammonia sulphate	lbs.	30,496,374
Benzol	gals.	3,843,039
Coaltar	gals.	14,245,435
Creosote oil	gals.	793,401
Naphthalene, crude	lbs.	1,884,328
Phenol	lbs.	223,144
Toluol	gals.	768,697
Xylol	gals.	173,536

For Late Market Developments, See Page 4

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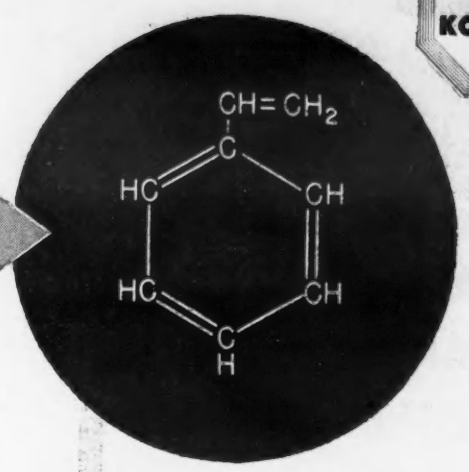

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4.1 percent and stocks were down 9.4 percent at the end of the month, as compared to August.

Toluol—The toluol market continued its tightening course of the past two months, as demand generally became heavier. It was reported that one of the very large petroleum producers was advancing spot toluol effective December 1 by 1½ cents per gallon, with contract prices to advance similarly at the first of the year. Coaltar producers meanwhile had not decided what they planned to do pricewise, but had the matter under consideration. No move in this direction was contemplated until the first of the year.

Coke oven operators' production of the 1 degree nitration grade of toluol increased during the month of September by 6.3 percent to 1,845,736 gallons, bringing their total for the first three quarters of this year to 14,860,977 gallons, as compared to 8,789,600 gallons during the same period last year. Their production of industrial pure toluol also increased during the first nine months of this year to 4,069,252 gallons as compared with only 1,912,800 gallons during the same period last year. Other grades of toluol were produced in quite small quantities by coke oven producers, totaling only 737,880 gallons for the first three quarters of this year.

Xylol—The xylol market was somewhat tighter than usual in recent weeks, although supplies were not considered critical, and most demands were being met with fair promptness. No serious shortage was expected to develop because of the flexibility of production existing in certain quarters. The petroleum source material was advanced by one major company by 1½ cents per gallon effective on spot purchases November 1. Contract prices were slated to take a similar rise as of December 1.

Coke oven operators were reported by the Bureau of Mines to have produced 5,324,643 gallons during the first three quarters of this year, as compared with 4,337,500 gallons during the same period last year.

Dyes

Chrome Blue Black R, C.I. 202—August production of this dye was reported by the Tariff Commission as 129,335 pounds, being somewhat under the July figure of 130,736 pounds.

Direct Black EW, C.I. 581—August production of this dye amounted to 1,054,008 pounds, as compared to 1,017,166 pounds during July. This brought the total production of this dye to 7,083,966 pounds for the first eight months of this year, during which time production statistics showed a monthly increase from ¾ of a million pounds to a rate in excess of a million pounds in July.

Anthraquinone Vat Blue BCS—Production of this vat dye of color index 1114 on a 20 percent basis amounted to only 63,891 pounds during August, according to the Tariff Commission report which indicates a steady decline in production over the eight months period except for slight fluctuations in Februrary and April.

Naphthol AS—This F.P. 302 dye also has undergone a steady decline in production over the last eight months, dwindling to 66,992 pounds in August.

Imported last week were some 124 drums of anilin dyes from France and Britain. Dye prices continued steady at the higher levels established at the beginning of the fourth quarter of this year. No further changes were looked for in the near future.

Intermediates

Anilin—The market situation on anilin remained unchanged last week as sales continued steady at firm prices. Supplies meanwhile were not considered critical while shipments were reported to be going forward promptly out of current production.

Chlorobenzene—The pressure on this chemical which for some months had been heavy because of its use in the manufacture of DDT, has over the last few months been relieved progressively to a point where the market situation is relatively easy. This arises from the growing lack of demand for DDT which this year was considerably less than last year, and next year is likely to decrease further. This slackened demand for DDT is the result of the effectiveness of the chemical in destroying insects. Currently, stocks of DDT by major producers were reported to be heavy, resulting in a significantly decreased demand for monochlorobenzene.

Dinitro-orthocresol—Imported last week were some 104 kegs of this item from Sydney. Demand was strong and supplies were short.

Gamma Acid—This 2-naphthol-6-disulphonic acid, like the other naphthyl sulphonic derivatives of naphthalene was in short supply under pressure of very heavy demand from the dyestuffs industry. Prices held firm in the range of $1.03 to $1.07 per pound.

J Acid—This 1-naphthylamine-5-sulphonic

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acid was being quoted in certain quarters last week at $2.42 per pound on the 20 percent basis material. Supplies were everywhere short under firm demand.

L Acid—Supplies of this 1-naphthol-5-sulphonic acid was in not much better position than the corresponding amino compound reported above. Prices were listed at 73c. per pound and no immediate change was contemplated. Demand from dyestuffs manufacturers was greater than could currently be met.

Maleic Acid—Maleic acid prices continued in the range of 26c. to 31c. per pound, with supplies still short, and demand heavy. Production in the early months of 1946 was expected to advance sharply, making for an easier market situation.

Maleic Anhydride — No change in the maleic anhydride situation between now and the first of the year was expected. Supplies remained very critical, while prices held firm. After the turn of the year, new production will be coming into the market on an increasing scale. Much of this new production, however, has already been committed for several months. While the new production will have the effect of making more maleic anhydride available for greater and wider use, the demand is so great that an eased market condition will not become apparent for quite some time after the first of the year.

Orthocresol — Imports of this chemical have been quite low, and last week there were only 42 drums brought into this country from Liverpool. Supplies of domestic material were far from sufficient to take care of demand.

Phthalic Anhydride—Demand for phthalic anhydride continued at its usual heavy pace with the supply picture essentially unchanged and remaining critically short. Prices in the East were steady at 17½c. to 18½c. per pound for carload and less than carload quantities respectively, freight equalized. On the West coast delivered prices on phthalic anhydride were set at 19¼c. for carlots and 21¼c. for less than carlot quantities.

Tar Oil Acids—Supplies of tar oil acids for the manufacture of germicides and disinfectants continued strong, and in general were tight because of the cresylic shortages. Prices held firm.

NPC Studies Illinois River Ice Problems

OPD Washington Bureau

Appointment of a Committee on Illinois River Winter Petroleum Transportation to ascertain the need for keeping the Illinois River ice-free for traffic this winter was announced recently by the National Petroleum Council. The committee was set up in response to a request from the oil and gas division of the Department of the Interior. It would also determine the extent of the relief such a project would provide to the petroleum transportation program; and the feasibility of the project.

Members of the committee are B. L. Majewski, Deep Rock Oil Corporation, Chicago, chairman; H. M. Baskerville, Upper Mississippi Towing Corporation, Minneapolis, Minn.; A. L. Christy, Pure Oil Company, Chicago; A. W. Frey, National Oil Transport Corporation, New York; J. O. Innes, John I. Hay Company, Chicago; B. L Mees, Globe Oil & Refining Company, Chicago; A. E. Peake, Standard Oil Company (Indiana), Chicago; Chester Thompson, American Waterway Operators, Washington, D. C.; and P. S. Wise, Socony-Vacuum Oil Company, New York.

Glyco Develops New Textile Printing Wax

Glyco Products Company, Brooklyn, N. Y., has developed a new wax for use in screen printing of textiles which is said to have the property of holding fabrics without adhering to them. Use of the wax, called "Flexo Wax C Light," is said to prevent the danger of smudging the pattern by accidental movements of the cloth and to eliminate the need for pinning the material to the table.

The company said that the wax is easily applied to screen printing tables, either by hot melt or, after being mixed with a hydrocarbon solvent, in paste form. After it has solidified, the fabric is placed on it and slight pressure will cause the cloth to adhere to it tightly. Wax particles will not pull off or stick to the fabric when the material is peeled from the table, it is claimed.

Jones & Laughlin Steel To Enlarge Coaltar Output

Enlarged production facilities for coaltar chemicals will result from two of the projects being undertaken by the Jones & Laughlin Steel Corporation, Pittsburgh, as part of its current $100,000,000 plant improvement and expansion program.

At the corporation's Aliquippa, Pa., works, the enlarging and rebuilding of its number one battery of by-product coke ovens, at a cost of $6,989,000, is expected to be completed and the ovens in operation during May, 1948. By March of the following year, additional by-product and benzol recovery facilities costing $3,462,000 are expected to be operating.

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Textile and Leather Chemicals

Steady demand for sizing materials continued to feature the market last week. The bulk of trading was done in corn derivatives, because of the scarcity of potato starch and tapioca flour. Capacity production of corn starch and dextrin moved steadily into consuming channels against current contracts. Active inquiry also was noted for nearby requirements. Scarcity of potato starch was due to the light output, which was sold for delivery to next February. Production in Maine was reported at a standstill because of the lack of potatoes and it was approximately 20 percent of capacity in Idaho. Tapioca flour was in good demand for nearby delivery, but trading was restricted owing to limited offers for shipment from Brazil, which were held at steadily increasing prices. Supplies on the spot were firmer and fractionally advanced. Sago flour market was stronger, owing to the higher cost of replacements. Stocks on the spot were scanty and quotations were steady but more or less nominal.

There was little improvement in the demand for tanning materials for nearby requirements. Trading in replacements of late has been light and spotty. Offerings of most materials were at unchanged prices and generally were well held. Interest in quebracho extract was fairly active for nearby delivery and tanners inventories were reported substantially improved than heretofore. Consuming inquiry for wattle extract continued active. Trading was restricted in view of the limited offerings for shipment from primary centers.

Wool textiles and clothing will probably cost more in 1948, the American Wool Council predicted on the basis of present indications. One of the chief reasons for this advance is the increased cost of foreign wools, principally from Australia, on which this country has become increasingly dependent. The council estimated that prices at Sydney and Melbourne auctions this week, may be 35 percent above last June. A lower wool clip this year is being bidded up by an abnormal demand for fine wools, the council reported. American production this year will require about one billion pounds of wool, or 70 percent more than average prewar consumption. Meanwhile, European mills are making their demand felt for fine wools for textiles for home consumption and export. Wool prices in foreign markets were generally firm in September and early October according to the Bureau of Agricultural Economics. Because of high prices for fine wools abroad, United States mills continued to buy most of their fine wool in this country. CCC sales of wool in September and the first half of October were substantial but may not have reached record of the same period last year.

Chemicals

Aluminum Acetate—Market remains steady under a good consuming demand. Prices were unchanged at former levels.

Bichromates—Conditions continued firm in this market. Production moved steadily against current contracts, and available supplies were limited which affected export business. Prices were unchanged and strong.

Sodium, Acetate—Supplies were light as strong demand readily absorbed the production. Quotations were unchanged and firm.

Soda, Hydrosulphite—Good demand was reported for prompt requirements. Consumers showed a good inquiry for nearby needs. Market remained in a steady position.

Sulphonated Oils—Business was slow and confined to small lots for immediate needs. High cost of vegetable, and fish oils and tallow has affected the demand for the sulphonated grades and increased the use of substitutes.

Sizing Materials

Albumen (Egg)—There was little activity in this material, owing to light supplies, which have reached high price levels and discouraged demand. Prices were entirely nominal ranging from $2.80 to $3 per pound, barrels, depending upon seller and buyer. Light stocks were held by suppliers for their regular customers. Technical grade was also firmer and well held at $1.25 to $1.40 per pound, barrels, depending upon quantity and quality. Imports of 22 cases were noted at New York from Shanghai last week and delivered on former orders.

Albumin, Blood—Market was steady and unchanged. Trading was fair and mainly for immediate requirements. Quotations were maintained at current levels.

Market Trends

Prices Advanced

Potato starch, 1c. per lb.
Tapioca flour, ½c. per lb.

Prices Reduced

None

Comparative Price Indexes

(100=August 1, 1914)

Last week.	Prev. week.	Last month.	Last year.
378.7	378.7	361.9	299.3

(For Current Prices see Page 9)

Dextrin, Corn—This market was firm, and reflected the strength in corn. Demand was active for deliveries against former orders and for additional lots for nearby needs. Prices were unchanged and steady.

Egg, Yolk—Limited supplies were in firm hands. Trading was light and spasmodic at $1.20 to $1.25 per pound, depending upon quantity and seller. Tanners yolk was well held at 5½c. to 7c. per pound, as to quantity. Some 75 cases were received from Shanghai last week and were reported sold before arrival.

Sago Flour—This market remained steady with the higher cost of replacements. Supplies on the spot were light and quotations nominal at about 9c. per pound, for spot delivery.

Starch, Corn—Active consuming demand, coupled with the high prices for corn continued to keep the starch market in a strong position. Consumers absorbed the output against current orders, and active inquiry was reported for nearby requirements. Prices were unchanged and firm for all grades. Visible corn supply increased 850,000 bushels to 7,315,000 bushels for the week ended November 7, compared with 5,810,000 bushels for the same time last year, it was reported by the Chicago Board of Trade.

Starch, Potato—Trading was slow owing to the scarcity of supplies and the market was entirely nominal. Production was light and reported sold up for delivery to next February. Inquiry was active for domestic and export account. Mills in Maine were shut down by the lack of potatoes, and grinders in Idaho were reported operating at about 15 to 20 percent of capacity. Offerings from mills were nil and light supplies on the spot were quoted nominally at 10½c. to 11c. per pound, depending upon quantity.

Tapioca Flour—Recent active inquiry for shipment from Brazil has subsided, but a steady moderate volume of business was reported for prompt and nearby delivery. Offerings from Brazil were limited and held at higher levels. This strength was reflected in the local market and quotations were higher for supplies on the spot. Medium grades were quoted at 9c. to 9¼c. per pound, and high at 10c. to 10¼c. for spot delivery, according to quantity. Arrivals totaled 8,200 bags at New York last week for delivery on previous contracts.

Tanning Materials

Chestnut Extract — Moderate quantities were reported in steady demand for prompt delivery. Quotations were unchanged and well held.

Mangrove Bark—Offers for shipment were reported steady at current levels. Buying interest was slow and orders were limited to an occasional lot for nearby delivery.

Divi Divi—Inquiry for replacements was limited last week. Offerings for shipment were moderate and well held at current levels.

Myrobalans—Tanners showed little interest in replacements and the market was dull and merely nominal. Offers for shipment were quoted at current levels, but with trading inactive quotations were nominal.

Quebracho Extract — Arrivals of extract were larger last week and totaled 69,400 bags at New York and were delivered against former orders. Consuming inquiry for replacements was reported as fair. Offers for shipment were well held at current quotations.

Valonia—Offerings for beards and cups for shipment were scarce and the market continued entirely nominal. Latest reports from Turkey stated that higher prices were contemplated for shipments. Consuming inquiry was quiet. Extract recently was reduced and was quoted at 9½c. per pound, exdock, plus duty. Arrivals of valonia were reported at 4,790 bags and were consigned against former contracts.

Wattle Extract—Buying interest was reported fairly active for nearby delivery. Primary markets continued strong and offers for shipments were limited. Bark and extract were firm at unchanged quotations for nearby delivery.

For Late Market Developments, See Page 4

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Drugs and Fine Chemicals

The drug and fine chemical market last week contained many very firm spots. Quotations on all kinds of glycerin were raised. Strength was to be found in menthol, industrial alcohol, amyl acetate and alcohol, fusel oil, milk powder, blackstrap molasses, fishliver oils, mandelic acid and the mandelates, and narcotics. Demand was good in the market as a whole and it was difficult to discover basic weakness in more than a few items—including castor beans which ended the week lower at the source.

A change in the situation concerning the purchase of blackstrap molasses and alcohol from Cuba was due to come when the Reconstruction Finance Corporation shall have completed its buying arrangements with the Cuban government. Latest information was that, come the turn of the year, the American industry may do its own buying of blackstrap and it remains to be seen if the industry continues to buy alcohol in Cuba for distribution in the the United States. Washington reported no official negotiations through which the arrangements in recent years might be extended, renewed, or carried on to a new basis. Blackstrap molasses and sugar may be exported without export license to all destinations except Spain and its possessions.

Acetanilide was considered basically firm by its leading producers but some quarters undersold the basic quotation of those manufacturers. Amyl alcohol from pentane was firm at its late rise and amyl acetate from fusel oil was all but unobtainable. So was fusel oil itself. Stability governed natural fermentation butyl acetate and alcohol.

Milk sugar production in nine months of this year—all kinds included—was reported at 31,306,000 pounds, comparing with 28,811,000 pounds in the corresponding period of 1946. Production of glycerin was at a high level but at steadily rising costs. Output of industrial alcohol was hampered by the raw material situation. Major production of quinine and its salts was still an end to be desired, but major encouragement in that direction stems from the current situation as to expected exports of cinchona from Java. Recent fighting in Java failed to damage the plantations. The Dutch would rather export quinine than bark, and resumption of normal production of quinine from Java bark imported into the United States may prove to be a difficult achievement.

Acetaldehyde—Price stability in this market has been its feature for some time past and conditions in that respect showed no change last week. Demand was steady and accounted for current production in substantial fashion. Undertones continued to be firm.

Acetanilide—Conditions were unaltered. Demand kept supply in comparatively low estate so far as unsold reserves in producers' hands were concerned. No surplus was noted and none was in sight. Prices continued to vary some according to quoter but basically the market on USP goods remained at 40c. per pound and nothing was quoted under 38c., a price restricted to a single source.

Acetone—Movement into consumption was in excellent volume and with supply not in excess of current requirements, firmness characterized prices in all directions.

Acetophenetidin—Because of the strength prevailing in the field of production costs, this article was firm to strong throughout the past week. Under the added influence of a good demand, prices were thoroughly well maintained and lacked signs of any early change in that aspect of the market.

Acid, Aminoacetic—Prices were confirmed as being unchanged. Also, they were exceptionally steady and while demand was not rising, it was well maintained at recent levels and bid fair so to continue.

Acid, Arsenous—Demand was rather light, consisting of current needs that were conservative in size but which reached the market steadily throughout the entire week just ended. Prices continued to display the quality of stability that had featured them for some time.

Acid, Ascorbic—Movement was at fair levels, comparing well with that in recent weeks and contributing to the general stability that has also featured prices for a considerable length of time. Reserves were sufficient to cope with any substantial increase in current needs.

Acid, Boric—The base price for this article in carlot quantities has not been changed; some misunderstanding of that aspect of the market has arisen. Carlot quantities are and have been quoted on a works basis. However, to the base carlot price must be added the advances in freight rates recently authorized, in October, if memory serve correctly. To the extent of the rise in freight rates, consumers of this acid in carlot quantities will net that much higher cost and the increase will vary according to the delivery point.

In less than carlot quantities, which producers quote ex-warehouse, there has been added a definite $2.20 or $2.50 per ton, depending on the producer. These additions are the producers' calculations of the increase in freight rate charges from the works to the warehouse point.

Acid, Gallic—New undertakings of consumers were in line with their normal requirements, there having been little change in the size of basic needs of the leading buyers for consumption. Prices appeared to be definitely steady in all respects and undertones continued to be very firm.

Acid, Gluconic — Demand was routine. Numerous requests were along jobbing lines and large way transactions were not too plentiful in producers' receipts of orders. Pricewise, the market was very steady and displayed substantial stability last week.

Acid, Mandelic—In quantities of 1,000 pounds, the price was firm at $2.35 per pound, while smaller lots ranged $2.40 to $2.60 per pound according to quantity. Production cost of the article has been increased and a stronger market price position achieved.

Acid, Pyrogallic — Movement consisted mainly of routine quantities that lined up fairly closely with the takings of consumers over the past several weeks. Supply was said to be adequate for current needs and still to leave a modest reserve to cover any unusual requests that might arise.

Acid, Tannic—The entire group of this material held steadily. It was steady as to price and equally steady as to demand. Movement was in normal quantities that kept undertones very firm.

Alcohol—The Reconstruction Finance Corporation as a source from which the alcohol industry might secure supplies will pass out of the picture, come the first of the year or shortly thereafter. This is because the contracts between the agency and the Cuban suppliers have been about completed and no new negotiations between those respective bodies are underway. Also, the question of renewal or extension of old contractual conditions, and of new contracts for the purchase of either alcohol or blackstrap molasses of Cuban production is not engaging officials presently. Unless that aspect of the situation shall change, the alcohol industry will be entirely back on a basis of private enterprise and initiative in 1948, which means that the producers will negotiate privately for their blackstrap molasses requirements and the element of competition for stocks may be much more of a factor than it has been for years.

Aloe—This group of materials showed a return of some unsettlement to the current price situation on the spot. Although quotations lacked formal change, they showed some tendency to bend toward buyers' price views, a fact suggestive of a return to the recently competitive situation in local circles of supply.

Amyl Acetate—The recent advance in prices on the item made from fusel oil was strongly maintained and leading sources of supply said that they had practically nothing to deliver promptly on new orders. The situation as to supply was extremely tight and conditions did not forecast any easing in that aspect of the market in any foreseeable future. No change has been made in quotations on this product when made from pentane but its position was one of firmness.

Amyl Alcohol—The product made from pentane continued firm at the higher prices established as of November 1 and announced to the trade during the previous week. Production costs have forced a higher market and throughout the past week said higher

For Late Market Developments, See Page 4

Market Trends

Prices Advanced

Fishliver oils, 2½c. to 5c. per million units.
Glycerin, crude, saponification, 6c. per lb.
soapiye, 6c. per lb.
refined, USP, 10c. per lb.
dynamite, 10c. per lb.
high gravity, 10c. per lb.
yellow, distilled, 10c. per lb.
Milk powder, skimmed, roller, ¾c. per lb.
spray, 1c. per lb.
whole roller, ¾c. per lb.
Quinine phosphate, 6½c. per oz.
salicylate, 2½c. per oz.

Prices Reduced

Castor beans, $5 per long ton.

Comparative Price Indexes

(100=August 1, 1914)

Last week.	Prev. week.	Last month.	Last year.
256.4	256.1	255.8	245.9

(*For Current Prices see Page 9*)

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market was one of substantial strength under good request.

Antipyrene—Supply continued to be inadequate when compared with the broad needs of manufacturing consumers. Prices were firmly adhered to in all quarters and the tendency, if any, was upward.

Atropine—Stability governed prices last week but fundamentally they were very firm based on the current cost of production and the absence of any likelihood of raw material price reduction sufficient to ease the price structure of this derivative of belladonna.

Blackstrap Molasses—This article may be exported under general license to all destinations other than Spain and its possessions. Being under general license, an export license from the Office of International Trade is not required. Export control over blackstrap molasses expired October 31 when the Sugar Control Extension Act of 1947 died. Effective November 1, the Office of International Trade announced that export control over blackstrap molasses was reinstituted.

Borax—Carlot prices on this material are basic at the works and no change in the basic quotations has been made. Buyers in carlots will find their gross cost higher to the extent of the higher freight rates that went into effect last October. The increased cost per ton at buyers' works will differ according to the point of delivery.

Less that carlot quantities are quoted on the basis of ex warehouse and quotations on such quantities have been raised $2.20 or $2.50 per ton, depending on the producer's calculation of the higher freight rate paid to get goods from the works to the warehouse.

Butyl Acetate, Alcohol—Producers via the fermentation process failed to effect any change in price schedule. In fact, the current schedule of prices on normal fermentation material has been in effect for a substantial period of time. The entire group—normal fermentation and synthetic material, also the secondary acetate and alcohol continued to display unchanged price stability.

Calcium Mandelate—Higher production costs have strengthened the position of this material and the price range of $2.35 to $2.60 per pound, prevailing according to quantity, was a firmly maintained item throughout the past week. Demand was steady but also routine.

Castor Oil—The local prices on castor oil continued to hold relatively steady throughout the past week and sales volume compared satisfactorily with that in recent periods. The price trend for raw material continued downward and last quotations were heard around $185 to $190 per long ton, f.o.b. Brazilian ports.

Importations of castor beans last week totaled 11,190 bags, or 1,678,650 pounds, comparing with 32,486 bags, or 4,869,900 pounds in the previous week and 31,586 bags, or 4,737,900 pounds in the corresponding week of 1946.

Total arrivals since January 1 of this year became 1,339,418 bags, or 201,512,700 pounds, against 1,137,102 bags, or 170,568,300 pounds during the corresponding period of time in 1946.

Ethyl Acetate—The higher prices reported during the previous week were backed by a strong situation as to production cost and an excellent situation as to the requirements of manufacturing consumers. The market was resilient and sensitive.

Fishliver Oils—The market has become more quiet and buyers were reported showing considerable reserve. However, the supply situation was such as to act as a strengthening factor in the market and the result has been a general advance in prices.

Los Angeles, Nov. 13.—This market was stronger here this week, with prices of some unit oil going up. However, supplies were still short. Vitamin A oils, including the 1854 conversion factor in all potencies, was as follows:—8,000 to 15,000 unit oil, 16c. per million units; 15,000 to 30,000, 22c.; 30,000 to 60,000, 22c. to 25c.; 60,000 to 100,000, 27c.; 100,000 to 150,000, 27c. to 32c.; 150,000 to 200,000, 34c.; concentrates, 500,000, 35c. to 36c., and a million units, 38c. to 41c.

Fusel Oil—A strong market had prevailed for many months and it was no less strong during the past week when the almost unobtainable material was maintained strongly at higher prices recently established. Sellers in all instances showed reserve. In fact, they were unable to offer goods for prompt delivery in most instances.

Glycerin—Refiners advanced quotations last week, thus passing on to glycerin consumers a part of the increased production cost of making soaps—an increase forced on the soapers by the long sustained and very extensive rise in the prices for oils, fats, and tallow.

The advance differed somewhat according to producer. At least one manufacturer upped quotations 10c. per pound all along the line. And at least two others raised them 10¾c. Following the advance, refiners price views on soaplye glycerin stood at 28c. to 29c. per pound, which would mean saponification at 29c. to 30c. if any were available at that figure. However, asking prices on saponification were heard as high as 35c. and 38c. per pound.

Revised prices became as follows, differing as to seller:—Dynamite, drums, carlots, 39½c. to 40¼c. per pound; less carlots, 40c. to 40¾c.; tanks, 39¼c. to 40c.; high gravity, drums, carlots, 39½c. to 40¼c.; less carlots, 40c. to 40¾c.; tanks, 39¼c. to 40c.; refined, B. P., drums, carlots, 39¾c. to 40½c.; tanks, 39½c. to 41¼c.; USP, drums, carlots, 39½c. to 40¼c.; less carlots, 40c. to 40¾c.; tanks, 39¼c. to 40c.; yellow distilled, drums, carlots, 39⅜c. to 40⅛c.; tanks, 39⅞c. to 40⅝c.

Iodides and Iodine—Substantially firm in all quarters. Demand took up production of the major iodides with fair precision and in steady volume. Crude was in good supply, a stockpile of considerable proportions being always maintained at points nearby New York. Prices were well maintained at all times and the market continued little of competition likely to affect quotations adversely.

Menthol—The tendency of prices in all

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markets continued to be upward. Those venturing a prediction of the future of market prices were not loath to mention a quotation even as high as $10 per pound. The most recent importation came from Shanghai, China, being a matter of 80 cases. It was said that based on recent prices received from Japan, the landed cost of merchandise from that formerly basic primary market would be around $9.25 per pound.

Milk Powder — Advancing prices prevailed and stocks were reported shrunken to an extent that made reserves very light. Demand for domestic and foreign account was good and production still dwindled. A recent purchase of whole milk powder for export by the Commodity Credit Corporation of the Department of Agriculture totaled 1,375,000 pounds of spray process material.

Milk Sugar—The Bureau of Agricultural Economics, Department of Agriculture, reported production of crude during the period January-September this year for a total of 17,797,000 pounds, comparing with 16,677,000 pounds in the corresponding period, 1946. The increase was 7 percent. Production of refined material divided into technical and U.S.P. output. That of technical during the nine-month period referred to above totaled 3,775,000 pounds, comparing with 1,945,000 pounds in the corresponding time in 1946 and representing a gain of 94 percent. Production of U.S.P. goods totaled 9,734,000 pounds, against 10,189,000 pounds for the corresponding months in 1946, or a decrease of 4 percent. Stocks in hand on September 30, 1947, totaled 5,733,000 pounds of crude, against 2,191,000 pounds on September 30, 1946, an increase of 162 percent; refined, technical, 305,000 pounds in 1947, against 49,000 pounds in 1946, an increase of 522 percent; U.S.P., 1,338,000 pounds in 1947, comparing with 503,000 pounds in 1946, a gain of 166 percent. Stocks of all varieties of this milk derivative totaled 7,376,000 pounds on September 30, 1947, which compares with a total stock of all kinds at 2,743,000 pounds on the corresponding date, 1946.

Pyridoxin Hydrochloride — The market has been reduced $100 per kilo, establishing a market at $550 per kilo for quantities of 100 grams or more. Smaller lots were higher at 58c. per gram for 5 to 99 grams, and at 65c. for a single gram.

Quinine — The recent damage to the cinchona plantations in the reoccupied regions of West Java was reported as being very small. Some buildings were burned, but trees on the cinchona plantations were found generally undamaged.

During the fighting between the forces of the Indonesian Republic and those representing the Dutch government some workers and their families were driven off the land but they have returned in considerable measure and it is now expected that the West Java plantations will be able to resume production soon to supply the requirements of the quinine factory at Bandoening and also the export market on bark.

Some 36,000 acres are involved, and 85 percent of the total is in territory reoccupied by the Dutch. No information regarding the production prospects on the 4,500 acres in Sumatra has come to hand.

Inventories of stocks of bark found in reoccupied territory has not progressed sufficiently for the Dutch authorities to estimate the quantities to be available for export. It is known that 1,000 metric tons were found at the port of Chiribon and 300 tons have been shipped to the United States and the balance is destined for the Netherlands.

These data concerning the cinchona bark situation originate from the Preliminary Report on Economic Conditions in the Reoccupied Areas of Java and Sumatra and appear in Report No. 112 of the American Consulate General, Java, Netherlands Indies.

During the first half of 1947, the United Kingdom did considerable exportation of quinine and quinine salts, the total being 562,591 ounces, which compares with 281,922 ounces exported in the corresponding period of 1946.

Higher prices in two salts were noted, phosphate becoming $1.10 per ounce; salicylate, 95c.

Saccharin—Supplies were more substantial but the resale market was said still to obtain premiums, especially when the article was wanted for export.

Salol—Steady absorption of production continued in a definitely stable market. Demand was up to normal and supply was sufficient to care for the current volume of requirements and still leave a fair sized protective reserve.

Santonin—Not a great deal of demand reached this market last week. Trade was irregular and consisted mainly of limited quantities that were secured without too much trouble. It may be remarked that lists of arriving material have not included much santonin of Russian origin for a considerable period of time.

Seidlitz Mixture—Demand was moderate

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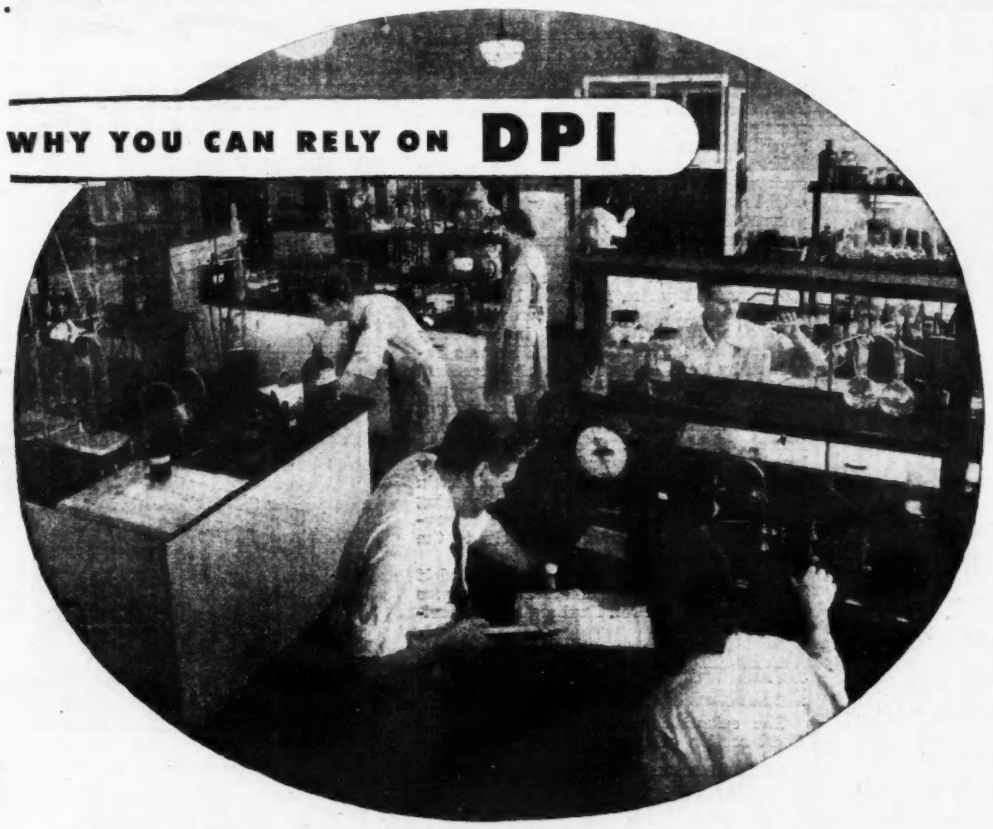

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but about equal to the volume of request normal for this time of year. The price position was on the firm side, reflecting the absence of weakness in the basic prices for raw materials.

Silver Salts—Bullion held without change last week. Hence, silver cyanide held steady over the price range of 62½c. to 63c. per ounce, according to quantity. Silver nitrate ranged from 48c. to 49¾c., on the same basis.

Soda Benzoate—The demand specially active during the fall months has subsided considerably, leaving the market more quiet but still well stabilized in price and generally firm in undertone.

Sodium Cacodylate — Former suppliers have not returned to marketing of this material. However, production in other directions was reported adequate and to be moving in a volume giving full support to current quotations.

Sodium Citrate—The substantial firmness and stability that governs raw material required for this citrate was reflected in the price situation in the product. Demand was normally active and was supplied from an ample reserve stock held by the producers.

Sodium Glycerophosphate—The market was steady at the recent price decline and unless there shall be a substantial reduction in the costs of numerous raw material, the current schedule was expected to become a firm fixture on the market. Demand was steady and up to normal expectations.

Sodium Perborate—Demand was routine in character but it bulked an excellent amount of material which was more than sufficient to keep prices in well stabilized position. However, manufacturing consumers have their requirements well protected at this time.

Sulphapyridin—The market was firmly maintained at $7 to $7.30 per pound and the sodium sulphapyridin was inside at $7.50 to $7.80. Range covered questions of quantity.

Sugar—According to the Office of International Trade, control over the export of sugar was reinstituted, effective November 1. Sugar had been controlled for export since April, 1947, by the Department of Agriculture under authority of the Sugar Extension Act of 1947, which expired on October 31. Sugar is now in relatively free supply, according to OIT. Export license documents will be required at this time only for shipments to Spain and its possessions. Exports to all other destinations may be made under general license and, therefore, do not require the issuance of an export license by OIT.

Chemists' Society Awards Medal to Prof. Neuberg

The American Society of European Chemists and Pharmacists presented Prof. Carl Neuberg with the first annual award of its Prof. Carl Neuberg Medal at a recent special meeting held in honor of the scientist's seventieth birthday.

Prof. Bruno Z. Kisch, chairman of the society's medal committee, announced the establishment of the award, which will be presented each year to a scientist of international renown, and presented it to the professor for whom it was named. The award consists of a silver medal bearing the name and portrait of Prof. Neuberg.

The recipient's work in creating the science and terminology of biochemistry previous to the first World War was reviewed by Prof. A. E. Gessler, vice-president of Interchemical Corporation, New York. Prof. Severo Ochoa, head of the department of pharmacology, New York University School of Medicine, discussed Prof. Neuberg's findings in carbohydrate chemistry and alcoholic fermentation, and Dr. Erwin Schwenk, vice-president of the Schering Corporation, pointed out that his discoveries have also contributed largely to the science of hormone chemistry.

An honorary membership in the Rudolf Virchov Society of Medicine, New York, was also presented to Prof. Neuberg at the meeting.

APMA West Coast Section Establishes Placement Service

The scientific committee of the Pacific Coast section of the American Pharmaceutical Manufacturers Association has made plans to establish a placement service for the benefit and convenience of pharmaceutical manufacturers and qualified personnel in its area. Paul C. Moore, of the Braun Corporation, 2260 East Fifteenth street, Los Angeles, will maintain a file of qualified personnel and prospective employers for this purpose.

Trade Briefs

E. J. Ranney, formerly of Ranney Sales Company, has been appointed vice-president in charge of the bakery flavor division of American Food Laboratories.

Hires Bottling Company, Hoosick Falls, N. Y., has moved to larger quarters in order to accommodate increased production. Further expansion is planned at Glens Falls, N. Y., and in the Ticonderoga area.

F. E. Slavan has been named vice-president in charge of eastern operation of Atlantis Sales Corporation, exclusive selling agents for R. T. French Company, maker of mustard and other food products.

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Fluorocarbons Research Reported On by OTS

OPD Washington Bureau

A comprehensive report on the results of fundamental research on the production of fluorine-substituted hydrocarbons, sponsored by the Office of Scientific Research and Development, is now on sale by the Office of Technical Services, Department of Commerce. The report, prepared by Robert D. Fowler and William B. Burford, covers research carried out at John Hopkins University between November 1941 and June 1943.

The new fluorination method described in the report represents a notable advance in the preparation of completely fluorine-substituted hydrocarbons, the report states. The method consists of reacting vaporized hydrocarbons with solid cobalt trifluoride at 150-400 degrees centigrade. The cobalt difluoride formed during the fluorination reaction may be reconverted to the trifluoride by the action of elementary fluorine.

New fluorinated organic compounds discovered include C_7F_{16} (perfluoro-n-heptane); C_8F_{16} (perfluoro-dimethyl-cyclohexane); $C_{16}F_{22}$ (perfluoro-cetane); C_7F_{14} (perfluoro-ethyl-cyclopentane); and C_7F_{14} (perfluoro-dimethyl-cyclopentane).

The 173 page report discusses the production of fluorine by electrolysis in 10,-200 and 600 ampere cells; the laboratory synthesis of fluorocarbons by direct combination of carbon and fluorine, by polymerization of carbon tetrafluoride in a pressure arc, and by the use of fluorinating agents. A full description is given of development and use of cobalt trifluoride as a fluorinating agent with data on apparatus and technique, relation between yield and experimental conditions, low temperature fluorination, and design and use of medium and large reactors.

Orders for the report (PB 77290; "Fluorocarbons"; mimegraphed, $5; 173 pages) should be addressed to the Office of Technical Services, Department of Commerce, Washington 25, D. C., and should be accompanied by check or money order payable to the Treasurer of the United States.

Chemical Industry Medal

—*Continued from page 7*

agement, a feeling of security, and inspiration to scientists. A unique appeal of the chemical industry lies in the urgent demands of competition—the intensity of effort that keeps the individual working at top constructive pace, but—the essence of scientific endeavor remains achievement."

Mr. Merck said that management has a three-fold responsibility to the members of its scientific staffs:—There should be sufficient funds for research; management should provide the best facilities and equipment, and academic contacts should be maintained through fellowships, grants, training programs, and the exchange of professors and students. In these ways, he declared, management can build a bridge between the fields of pure and applied science.

Referring to the secrets of warfare, Mr. Merck emphasized that "no single weapon of war, be it chemical, biological, or atomic, can be indefinitely controlled. The abolition of war itself is the only certain way to protect civilization from the modern agents of destruction."

Dr. Richards told of the establishment in 1932 of the Merck laboratories for pure research and pharmacological research, and of the accomplishments by Merck scientists which led to the volume production of many pharmaceutical products, including the synthetic vitamins B_1, B_2, and B_6.

"The research spirit in the Merck Laboratories is one of free inquiry," he said. "The complexity of the many problems in chemistry, biology, and medicine, requires thorough preparation. For this reason, many young men in the Merck laboratories are given leaves for advanced education, or are encouraged to take up night school work."

Dr. Richards also spoke of the streptomycin project, started in 1945, which led to the present volume production with the erection of a plant in Elkton, Va., where this antibiotic is grown for processing in the laboratories at Rahway.

Trade Briefs

Bulgaria has been granted a credit by the Soviet Union to finance the purchase of industrial equipment for the manufacture of mineral fertilizer.

Continental Can Company, Inc., New York, has issued a new bulletin called "Low Pressure Aerosols." The company is located at 100 East Forty-second street, N. Y.

Brazil has introduced bills in its legislature calling for a 2 percent tax on all foreign remittances and for a one-year regime of prior licensing for all imports and exports.

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Chemical Engineers

—Continued from page 7

doctorate's degree in the field of chemical engineering. From 1942 to 1946 he worked at Pan American, and since 1946 he has been assistant professor of chemical engineering at the University of Illinois.

Mr. Hummel graduated from the University of Louisville, and the University of Wisconsin. From 1942 to 1945 he worked at Pan American at Texas City, on process design, and since then he has been at Wisconsin studying for his doctorate in chemical engineering.

William J. Terrell, formerly a student at the Texas A. & M. College, College Station, Tex., and now employed by the Gulf Oil Corporation at Port Arthur, Texas was granted the A. MacLaren White Award in the student probem contest. Second prize was won by Eugene Franklin Macbell of the University of British Columbia, and third prize went to Maurice E. Brooks of Cooper Union, New York. This award is made for the best solution of a chemical engineering problem, prepared by a committee of chemical engineers from industry, with D. Mott Souders, jr. of the Shell Development Company, San Francisco, Calif., as chairman.

Gasoline from Natural Gas

Two developments by American chemical engineers will make the production of gasoline from natural gas and coal economical, in the opinion of Dr. H. H. Storch, chief of the Bureau of Mines synthetic liquid fuels research and development division.

The two developments are the fluid catalyst technique, which blows a finely divided powdered catalyst through reaction zones, and the other is the production of cheap high concentration oxygen. The basic process by which the gasoline is synthesized is German, and was used extensively by the Germans in making gasoline from coal. However, the German process, by not using fluid catalysts, required extensive installations of water-cooled heat exchangers. The new technique, which was discovered by American chemical engineers during the war, eliminates the necessity of large numbers of heat exchangers, gives a much faster reaction, and conserves steel and plant investment. Dr. Storch said that American industry was at present planning several plants for the production of synthetic gasoline, and one plant at Brownsville, Tex., will yield about 8,000 barrels a day of this synthetic fuel.

James R. Latta and Scott W. Walker, of the Stanolind Oil & Gas Company, described plans for two commercial plants to manufacture gasoline, diesel fuel and chemicals from natural gas. They said the process will soon be extended to use coal as a raw material. The domestic supply of liquid fuels at reasonable cost is now assured for hundreds of years because of large scale application of United States engineering methods to the Fischer-Tropsch process, begun in Germany in 1923, according to the authors.

By the new process, fuel is burned under pressure in pure oxygen separated from the air to form a "synthesis gas" of hydrogen and carbon monoxide. This gas is heated under pressure and contacted with a catalyst, where the liquid fuels and chemicals are formed. The new plants are small compared with probable future units, it was said; yet they will produce 6,500 barrels per day of liquid fuels from 110,000,000 cubic feet per day of natural gas and 260,000,000 cubic feet of air.

Monosodium Glutamate Study

Dr. P. D. V. Manning, R. W. Shafor, and F. H. Catterson of the International Minerals & Chemical Corporation, discussed the many problems which have been overcome in the production of monosodium glutamate. The raw materials of the process are proteins found in wheat, corn, sugar beets, and other farm products. Unfortunately, only small proportions are present, they reported, and a major problem has been to develop sources for low cost separation of the crude protein.

The process involves the use of corrosive hydrochloric acid and caustic which require expensive and special equipment. Briefly, the crude proteins are hydrolyzed to yield glutamic acid which is purified by crystallization. The acid is then converted to the sodium salt, which is also purified to give a final product of white needle crystals. The report added:—

"This complicated process necessarily yields a high cost product. However, its flavoring power compared to table salt is similar to the sweetness strengths of saccharine and sugar. It is, therefore, of great value in problems requiring flavor preservation and enhancement."

Nicotine Recovery

Nicotine is now being recovered from the exhaust air of tobacco driers, according to A. W. Kingsbury, A. B. Mindler, and M. E. Gilwood, of the Permutit Company, New York. The men stated that in cigarette manufacturing, tobacco is redried before manufacturing operations, and the hot air from the driers has a small amount of nicotine present. By scrubbing these gases with water, they reported, the nicotine is dissolved out of the air, and by passing the scrubbing water through ion exchange materials, the nicotine is selectively removed.

The engineers stated that though the amount of nicotine in the tobacco leaf is only 2 percent to 8 percent, one installation is recovering 175 pounds of nicotine a week from a factory drying 100,000 pounds of tobacco. By chemically treating the ion exchange materials, efficient recoveries of nicotine are obtained, they said, and after its removal, the ion exchange materials are again put back into operation on another cycle.

Furfural Production

Dr. L. B. Hitchcock and H. R. Duffey of the Quaker Oats Company discussed the development of furfural production and said the future for the industry appears bright as further uses and products are rapidly increasing today. It is interesting to note, they reported, that with the 16,000,000 tons of corn cobs annually available in the United States, 3,000,000,000 pounds of furfural could be produced. Thus a large supply independent of expendable resources is available to industry.

Among the more recent new chemical processes presented at the meeting is the complete removal of minerals from water by ion exchange. E. G. Kominek, chemical engineer of Infilco, Inc., Chicago, showed that this method was an improvement over older methods of producing a water free from all solids.

The ion exchange method of purification was first considered of prime importance in

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the sugar industry, he said, where complete removal of discloring matter is required. Since then, he added, it has been found that application of this method to hard water is more economical in operation than distillation. This is now providing a water of sufficient purity for use in pharmaceutical manufacture and for use in storage batteries, according to the author, who said the operation is low in cost and should make pure water available in larger quantities.

Designing Plants

Experience accumulated by the United States Bureau of Mines in the low temperature production of helium from natural gas is helping American chemical engineers to design new plants important to our economy, in the opinion of P. V. Mullins, of the bureau. The major new plants to which Mr. Mullins referred are in the low temperature industries of which the tonnage production of low cost oxygen is an outstanding example.

"Although the design of existing plants for the production of helium is not entirely new," stated Mr. Mullins, "the process is important as the forerunner of many new low temperature processes. Low temperature refrigeration is also finding advantageous use of the manufacture of pure chemicals from petroleum."

E. P. Palmatier, of the Carrier Corporation, discussed the problems which the company has overcome in the design of centrifugal refrigeration compressors. These are often huge machines, he said, capable of compressing 100,000 cubic feet of gas per hour and driven by 1,000 horsepower motors. The new centrifugal compressors permit large reductions in cost over the older piston-type compressors for these large jobs, and have proven more economical to operate, according to Mr. Palmatier.

Anthony Anable and R. P. Kite of the Dorr Company presented a survey of existing waste disposal laws in the United States. They found that almost all states have tended toward increasing restrictions, and conclude that existing violations will be corrected in the future. They stated that "the future waste treatment plant will be designed and built simultaneously with the major plant, and regarded just as important an operating element as any other plant process."

Scientists and Social Changes

Because scientists are responsible for the modern world, society demands that they play a part in meeting the social changes produced by their scientific work, Dr. C. E. K. Mees, vice-president in charge of Eastman Kodak Company research, told the meeting. But, he added, certain characteristics of scientific thinking make it difficult for scientists to operate in the political sphere, even though the scientific method itself "can and must" be used to study the social structure and the adjustments necessary to retain stability under changing conditions.

"The age-old foe of the scientific method is authority," he said, "and for a scientist to accept authority is to abandon his faith. But an almost equally objectionable idea to the scientific mind is that a decision should be made under the influence of emotion, and in politics emotion plays a very great part. In most political matters we do not think, we feel."

As long as men's actions are thus controlled by their emotions, Dr. Mees pointed out, an objective thinker who discusses every proposition without emotion can have no part in modern political life. This is so, he said, because "a politician must understand the effect of emotional thought and must be prepared to utilize emotional appeal if he is to obtain popular support."

Even though the political arena is unsuitable for the scientific man, he said, "those who believe most fully in the value of the scientific spirit should be prepared to understand and sympathize with leaders who must obtain general popular approval for their actions."

Tracing the part played by science in the construction of today's society, Dr. Mees said that the experimental method of science was found to be directly applicable to the control of industry at the beginning of the twentieth century. From that application has come the rapid growth in the efficiency of production that has marked the present age. He added that today "the growth of science is not only very rapid, it is still accelerating."

As this production of new knowledge and of new inventions goes on, he said, the conditions under which we live change, and we have to adjust our lives to meet them. To avoid periodic violent adjustments, "the world should try to adjust social conditions continuously as the advance of science makes changes necessary, and so that we recognize that the world today is a changing world and not the relatively static world of the past," Dr. Mees declared.

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DDT Supply Conditions

—Continued from page 32

duced operating cost at the present time. On the contrary, all factors are operating toward increased cost.

As a group, the DDT manufacturers represent the strongest members of the chemical industry. That is to say, such chemical manufacturers operated profitably before they embraced the production of DDT. These manufacturers are not going to operate their DDT production at full capacity in the absence of an active buying market; however, they probably will continue part-time operations so that they will have adequate stocks and not be caught entirely short when the next buying season begins. Most of these companies are large enough that they can well afford to carry large stocks of DDT since the investment tied up in them represents no particular burden. Those people who are looking for bargains in DDT might well be surprised because they withheld buying and planning for the next season for too long a period.

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Packaging Institute

—Continued from page 7

pany, "Closure Liners"; H. C. Minnich, advertising and sales promotion manager, U. S. Printing & Lithographing Company, "Gift Packaging," and H. Lyle Green, vice-president, J. L. Ferguson Company, "Case Sealing".

A seminar on foods, candy and tobacco will follow, with A. B. Brackett, packaging engineer, BirdsEye-Snider division, General Foods Corporation, presiding. Featured speakers will be:—E. A. Throckmorton, president, Container Laboratories, Inc.; Dr. C. Olin Ball, consulting food technologist, and R. R. Melson, of the Marathon Corporation.

The afternoon session will be devoted to a seminar on drugs, cosmetics and chemicals, divided into three separate discussion meetings, to be conducted simultaneously. A discussion on the packaging of drugs and pharmaceuticals for export, shipping container design and export shipping regulations and problems will be led by John A. Warren, of American Home Products Corporation.

Another discussion group, led by E. J. Henry, of Abbott Laboratories, will consider the problems inherent in the control of finished packages. On the panel will be F. H. Bither jr., of the Upjohn Company, and J. K. Taggart, of Eli Lilly & Co.

The third group will discuss the development and control of packaging material specifications, evaluation of factors of specification control from the standpoint of both package suppliers and users, and techniques of sampling and inspection procedures for incoming shipments. This group will be led by R. H. Rhodehamel, of Eli Lilly & Co., and the panel will include Kenneth Marvin, of Eastman Kodak Company, and John O. Browning, of Merck & Co.

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Hall Laboratories Assigns Bennett to St. Louis Post

W. C. Bennett, formerly in charge of engineering service in the St. Louis area for Hall Laboratories, Pittsburgh, has been named district engineer for the company for the area comprising Colorado, western Texas, Utah, New Mexico and Wyoming. He will make his headquarters in Denver with the Denver Fire Clay Company, which represents the parent firm, Hagan Corporation, and its associated companies.

Mr. Bennett succeeds Gerald G. Lipke, who has been transferred from Denver to the Pittsburgh sales area. Joining the firm in 1933, Mr. Bennett served in Pittsburgh until 1941, when he was transferred to the St. Louis office.

Chemical Needs of Italy,

—*Continued from page 3*

tons, valued at $6,600,000 for the period July 1, 1947-July 1, 1948. In addition, the French were allocated $23,000,000 worth from Chile. It appears that half the total allocations have been delivered during October and November. The remaining amounts allocated are needed to prevent further depletion of the soil and in order not to endanger 1948 harvests."

Italian Requirements

With respect to Italy, it was stated that fertilizer and other agricultural requirements total $19,000,000 for the four months period, and another $10,200,000 would be spent by Italy out of her own resources for supplies for its chemical industry. Miscellaneous chemical products required for the production of drugs and medicines in Italy were estimated at $3,000,000. Other chemical products, for an amount of $7,200,000 required by the chemical industry, included the following:—

Anthracite for special purposes; benzoic acid, aerofloat; butyl alcohol; crude anthracene, carbazole; calcinated petrol coke; essence of turpentine; acetacetic ether; pure benzene; potassium ferrocyanide; gilsonite; glycerin; cotton linters; crude naphthalene; solvent naphtha; stearine; monomer styrene; pure toluene; zanthogenates. A substantial number of these chemicals will be financed by Export-Import bank industrial loans.

The Secretary's comments on the fertilizer and other agricultural requirements of Italy were:—

"Requirements for fertilizers and other agricultural supplies include:—$5,600,000 for 400,000 tons of phosphate rock, required for the manufacture of phosphate fertilizer; $8,300,000 for 15,000 tons of blister copper, required for the manufacture of copper sulphate, which must be distributed before March; $4,000,000 for nitrogen fertilizer—42,000 tons were allocated from Chile but have not yet been procured for lack of funds; and $1,000,000 for miscellaneous agricultural supplies."

Needs of Austria

Of Austria's $42,000,000 stop-gap aid, $4,000,000 is to be spent for fertilizer. In addition Austria plans to spend $4,500,000 of her own resources for chemical and rubber and rubber processing materials. No further breakdown of the chemical requirements was shown, but with respect to the agricultural requirements, the Secretary stated as follows:—

"Total agricultural requirements for spring cultivation in 1948 are estimated to call for imports of approximately $18,000,000 of supplies. Approximately $7,000,000 are tentatively provided for through procurement prior to December 31, 1947, partly from U. S. Foreign Relief Funds, and partly from dollar receipts of the Austrian government. Of this $4,000,000 is for fertilizers, $1,500,000 for seeds and $1,500,000 for pesticides.

"These additional aid imports would enable Austrian agriculture to meet its minimum spring requirements for pesticides; but would cover only four-fifths of its estimated fertilizer needs for the spring season of 1948. This estimated need somewhat exceeds the amount of fertilizers used in Austria before the war, but is essential to compensate for the depletion of the soil during and since the war. Even with prospective imports of fertilizers, Austria will be unable to reach prewar food production within the next two years."

The total interim aid program also involves the expenditure of about $4,000,000 for medical supplies by Austria and Italy. The only comment made on these was that in the case of Italy, $1,500,000 was needed for streptomycin and penicillin, and $500,000 for other medicinal items.

Trade Briefs

Drugs and other medical supplies, donated by the druggists of Rexall Drug Company, Los Angeles, are carried in a special freight car, called the "Health Car," which is part of the "Friendship Train" of relief supplies for Europe.

R. L. Watkins Company, division of Sterling Drug, Inc., New York, has appointed Michael J. Cullinane as merchandising director. Mr. Cullinane was formerly manager of sales and advertising for Sterling's Cummer Company division.

Roche-Organon, Inc., hormone manufacturer, Nutley, N. J., has introduced a new estrogenic preparation called "Lynoral Elixir." Descriptive literature concerning this palatable estrogen may be obtained by pharmacists upon request to the company.

Hoffmann-LaRoche, Inc., pharmaceutical manufacturer, Nutley, N. J., has developed a new, water-soluble, viscous contrast medium, called "Rayopake," to be used in x-ray studies. Descriptive literature is available from department R-5 of the company, at Roche Park, Nutley 10, N. J.

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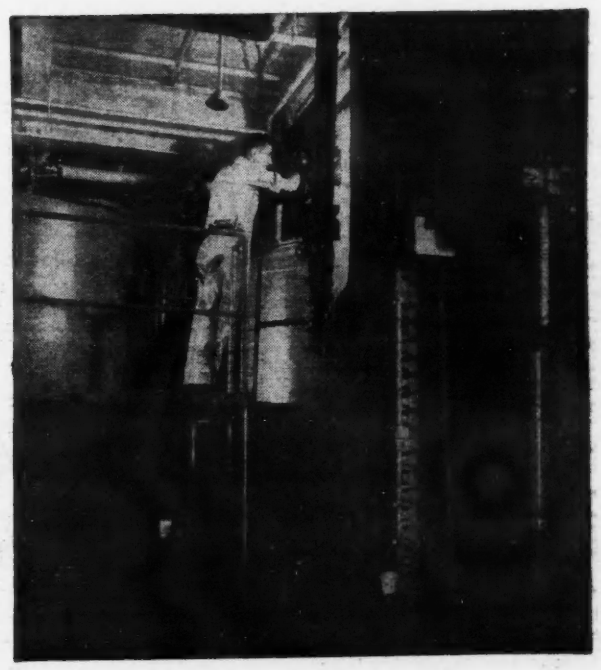

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Imports at United States Ports

New York Imports

ALUMINUM FOILS—10 cs, New England Foil Corp, Wisconsin, Havre
17 cs, National City Bank, Wisconsin, Havre

AMYRIS OIL—7 dms, Norda Essential Oil & Chemical Co, Irish Splice, Port au Prince

ANISEED—108 bgs, M J Golombeck, Horseshoe Splice, Tampico
OIL—5 dms, C L Quan Co, Marchen Maersk, Hongkong

ARABIC GUM—250 bgs, Dodwell & Co, Hollybank, Port Sudan
153 bgs, S B Penick & Co, Hollybank, Port Sudan
551 bgs, Stein, Hall & Co, Hollybank, Port Sudan
750 bgs, E Meer & Co, Hollybank, Port Sudan
250 bgs, McKesson & Robbins, Hollybank, Port Sudan

ARGOLS—244 bgs, American Cream Tartar Co, Furman Victory, Naples
872 bgs, Stauffer Chemical Co, Skagway, Catania

ARSENIC—105 bbls, American Smelting & Refining Co, Horseshoe Splice, Tampico

WHITE POWDERED—111 bbls, Philipp Bros, Batory, Gdynia
450 kgs, Philipp Bros, Batory, Gdynia

BALATA—18 bgs, H A Astlett & Co, Santa Paula, Cartagena

BALSAM COPAIBA—4 dms, R J Prentiss & Co, Toltec, Cristobal
10 dms, Magnus, Mabee & Reynard, Toltec, Cristobal

BARYTES—2,275 tons, E I du Pont de Nemours & Co, Empire State, Walton

BEEF LIVERS—169 cs, Grace National Bank, Pioneer Gem, Sydney

BRONZE POWDER—4 bbls, J H Faunce, Falstria, Copenhagen

CARAWAY SEED—100 bgs, Rudolph L Friedler, Inc, Aaldijk, Rotterdam
100 bgs, Holland Colombo Trading Society, Aaldijk, Rotterdam
100 bgs, Levy & Levis Co, Aaldijk, Rotterdam
300 bgs, International Rotterdam, Inc, Niew Amsterdam, Rotterdam
100 bgs, Catz American Co, Niew Amsterdam, Rotterdam
100 bgs, Rudolph L Friedler, Inc, Niew Amsterdam, Rotterdam
400 bgs, Holland Colombo Trading Society, Niew Amsterdam, Rotterdam
175 bgs, Levy & Levis Co, South Star, Rotterdam

CASEIN—8 bgs, Paul & Stein Bros, Irish Splice, Port au Prince

CASHEW SHELL LIQUID—283 dms, Irvington Varnish Insulation Co, Hollybank, Cochin
112 bbls, Irvington Varnish & Insulation Co, Hollybank, Cochin

CASSIA—84 bls, A G Dunn, Marchen Maersk, Hongkong
250 bls, A G Dunn, Stirlingville, Hongkong
248 bls, Van Norden & Archibald, Stirlingville, Hongkong
OIL—10 dms, Magnus, Mabee & Reynard, Marchen Maersk, Hongkong
20 dms, Fritzsche Bros, Marchen Maersk, Hongkong

CASTOR BEANS—6,850 bgs, Baker Castor Oil Co, Mormacsaga, Santos
833 bgs, Baker Castor Oil Co, Fenris, Bahia
2,550 bgs, Sherwin Williams & Co, Fenris, Bahia
387 bgs, Spencer Kellogg & Sons, Irish Splice, Port au Prince
571 bgs, Baker Castor Oil Co, Irish Splice, Port au Prince

CERAMIC COLORS—1 dm, M Grumbach & Co, Media, Liverpool
2 cs, J E Bernard & Co, Media, Liverpool

CHALK, PRECIPITATED—300 bgs, H J Baker & Bro, Media, Liverpool

CHILLIES—160 bgs, Standard Bank South Africa, Zini, Takoradi

CHINA CLAY—40 bgs, Eagle Pencil Co, Spitfire, Sydney

CINCHONA BARK—60 cs, Guaranty Trust Co, Niew Amsterdam, Rotterdam

CINNAMON—50 bls, Dodwell & Co, Tweedbank, Colombo
200 bls, C T Wilson & Co, Bucyrus Victory, Colombo

COD OIL—55 dms, C A Andres, Fort Townsend, St Johns
52 cks, F W Damon, Fort Townsend, St Johns
8 dms, F W Damon, Fort Townsend, St Johns
1 dm, Balfour, Guthrie & Co, Fort Townsend, St Johns
1 pkg, Balfour, Guthrie & Co, Fort Townsend, St Johns

CODLIVER OIL—25 dms, Vitaron Chemical Co, Fort Townsend, St Johns

CODLIVERS—20 dms, Vitaron Chemical Co, Fort Townsend, St Johns
75 dms, Silmo Chemical Corp, Fort Townsend, St Johns
8 cs, Silmo Chemical Corp, Fort Townsend, St Johns

COPAL GUM—377 bgs, O G Innes Corp, Marchen Maersk, Manila

CORNMINT OIL—6 dms, Consumers Importing Co, Inc, Mormacsaga, Santos

CREAM OF TARTAR—200 kgs, T M Duche & Sons, Persian Knot, Havana

CRESOL—47 dms, Media, Liverpool

CRESYLIC ACID—39 dms, Irving Trust Co, Pioneer Gem, Melbourne
50 dms, American British Chemical Supplies, Inc, Pioneer Gem, Sydney
59 dms, Concord Chemical Co, American Traveller, Manchester
1 dm, Riches Nelson, Inc, American Traveller, Liverpool
100 dms, Concord Chemical Co, American Traveller, Liverpool
101 dms, Schenectady Varnish Co, American Traveller, Liverpool
100 dms, Reinhart Chemical Co, American Traveller, Liverpool
116 dms, American Traveller, Manchester
90 dms, Metal Traders, Inc, Media, Liverpool
242 dms, Media, Liverpool

CYMBARUM OIL—63 dms, Dodge & Olcott Co, Fenris, Itajai
13 dms, Fritzsche Bros, Fenris, Itajai
44 dms, Irving Trust Co, Fenris, Itajai
45 dms, Stein, Hall & Co, Fenris, Itajai

DERRIS BERRIES—17 bls, Dodwell & Co, Tweedbank, Singapore

ROOT—80 bls, New York Trust Co, Tweedbank, Singapore

DAMMAR GUM—1,050 bgs, O G Innes Corp, Tweedbank, Singapore

DANDELION ROOT—8 bls, E Meer & Co, Aaldijk, Rotterdam

DEXTRIN—151 bgs, Stein, Hall & Co, Niew Amsterdam, Rotterdam

DINITROORTHOCRESOL—52 kgs, Bank New South Wales, Spitfire, Sydney
52 kgs, Bank of New South Wales, Pioneer Gem, Sydney

DYES, ANILIN—93 dms, Sandoz Chemical Works, Wisconsin, Havre
16 dms, Carbide Color & Chemical Co, Wisconsin, Havre
15 dms, American Traveller, Manchester

EGG ALBUMIN—22 cs, D L Moss & Co, Marchen Maersk, Shanghai

YOLK—75 cs, D L Moss & Co, Marchen Maersk, Shanghai

ESSENTIAL OIL—11 bbls, A Chiris Co, Wisconsin, Havre
1 kg, A Chiris Co, Wisconsin, Havre
2 cts, A Chiris Co, Wisconsin, Havre

ETHERICAL OIL—3 cs, Polaks Frutal Works, Nieuw Amsterdam, Rotterdam

ETHYL ALCOHOL—109,136 lbs, Seatrain Texas, Havana

EUCALYPTUS GUM—5 cs, S B Penick & Co, Pioneer Gem, Melbourne
LEAVES—20 bls, Pioneer Gem, Melbourne
OIL—52 dms, Dodge & Olcott Co, Pioneer Gem, Melbourne
12 dms, W J Bush & Co, Pioneer Gem, Melbourne
11 dms, Chemical Bank & Trust Co, Pioneer Gem, Sydney
56 dms, Orbis Products Corp, Pioneer Gem, Sydney

FUEL OIL—10,000 bbls, Asiatic Petroleum Corp, Santa Paula, Curacao

FULLERS EARTH—20 bgs, Eagle Pencil Co, Spitfire, Sydney
100 bgs, Bank New South Wales, Spitfire, Sydney

GALL—2 dms, Bank New South Wales, Pioneer Gem, Melbourne
1 ck, Pioneer Gem, Sydney

GALLNUTS—168 bgs, Zinsser & Co, Marchen Maersk, Shanghai

GELATIN—200 bgs, Royal Bank of Canada, Wisconsin, Havre

GINGER—824 bgs, Barclay Bank, Zini, Freetown
715 bgs, United African Co, Zini, Freetown
474 bgs, Zini, Freetown

GLANDS—143 cs, Tupman, Thurlow & Co, Media, Liverpool
139 cs, Grace National Bank, Pioneer Gem, Sydney

GLUESTOCK—350 bls, Transatlantic Animal By-Product Co, Marchen Maersk, Hongkong
623 bgs, Karr, Ellis & Co, Media, Liverpool

GLYCERIN—86,355 lbs, C J Schellings & Co, Seatrain Texas, Havana
36 dms, Soap & Edible Products, Ltd, Irish Splice, Kingston

GRAPHITE—30 bgs, National City Bank, Wisconsin, Havre
ORE—800 bgs, Frazar & Co, Marchen Maersk, Hongkong

GUM—381 cs, Chicle Development Co, Tweedbank, Singapore
28 cs, H A Astlett & Co, Tweedbank, Singapore
124 cs, Littlejohn & Co, Tweedbank, Singapore

GYPSUM—8,100 tons, National Gypsum Co, Cyrus W Field, Dingwall
2,800 tons, National Gypsum Co, Simcoe, Walton
450 bgs, C B Chrystal & Co, Media, Liverpool
10,081 tons, United States Gypsum Co, Gypsum Queen, Hantsport

HERBS, MEDICINAL—18 cs, C L Quan Co, Marchen Maersk, Hongkong
17 bls, E Meer & Co, Aaldijk, Rotterdam

IPECAC ROOT—14 bgs, S B Penick & Co, Toltec, Cristobal
10 bgs, Wessel, Duval & Co, Santa Paula, Cartagena

JAMBUL SEED—7 bgs, S B Penick & Co, Hollybank, Vizagapatam

KOLA NUTS—144 bgs, J A Manton & Co, Irish Splice, Kingston

LAUNDRY BLUE—6 bbls, Media, Liverpool

LAVENDER OIL—1 ck, Guaranty Trust Co, Wisconsin, Havre

LEMONGRASS OIL—12 dms, Givaudan Delawanna, Hollybank, Cochin
12 dms, W J Bush & Co, Hollybank, Cochin
6 dms, Felton Chemical Co, Hollybank, Cochin
6 dms, Ungerer & Co, Hollybank, Cochin

LIME OIL—25 dms, Dodge & Olcott Co, Irish Splice, Kingston
16 dms, J D Walsh Co, Irish Splice, Port au Prince

LIME JUICE—50 cks, Balfour, Guthrie & Co, Mormacsaga, Port Spain

LIQUIDAMBAR—5 dms, Cortez Trading Co, Toltec, Cristobal

LOCUST BEAN GUM—100 bgs, Wm M Allison & Co, Midland Victory, Antwerp

LOGWOOD EXTRACT—10 cks, American Dyewood Co, Irish Splice, Kingston

MACE—33 cs, J Berlage & Co, Tweedbank, Singapore

MAGNESITE, CALCINED—5,508 bgs, Golwynne Chemical Corp, Hollybank, Madras

MAGNESIUM CARBONATE—100 cs, Lo Curto & Funk, Media, Liverpool
CHLORIDE—8 dms, Media, Liverpool

MANGANESE ORE—5,100 tons, E J Lavino & Co, Zini, Takoradi

MENTHOL—75 cs, Paul A Dunkel & Co, Marchen Maersk, Shanghai
25 cs, R J Prentiss & Co, Marchen Maersk, Shanghai

MICA—75 cs, Whittaker, Clark & Daniels, Bucyrus Victory, Calcutta
42 cs, Cornelis & Suhr, Bucyrus Victory, Calcutta
150 cs, Otto Gerdau Co, Bucyrus Victory, Calcutta
239 cs, Bucyrus Victory, Calcutta
370 cs, Eugene Munsell & Co, Hollybank, Calcutta
105 cs, American Mica Co, Hollybank, Madras
199 cs, Wm Brand & Co, Hollybank, Madras

MUCUGE GUM—166 bgs, L A Dreyfus & Co, Fenris, Bahia

MUSTARD SEED—401 bgs, A G Dunn, Mormaclark, Copenhagen
552 bgs, Charles Gulden, Skagway, Catania
300 bgs, Joel Bieler Export & Import Co, Mormaclark, Copenhagen

NICKEL POWDER—17 dms, International Nickel Co, Media, Liverpool

NIGER SEED—200 bgs, Hinton & Co, Hollybank, Vizagapatam

NUTMEGS—42 bgs, B H Old & Co, Tweedbank, Singapore
28 bgs, J Berlage & Co, Tweedbank, Singapore

OLIVE OIL—486 cs, Barolia Importing Co, Furman Victory, Leghorn
125 cs, National City Bank, Skagway, Seville
50 cs, Manufacturers Trust Co, Skagway, Seville
40 cs, Bank of the Manhattan Co, Skagway, Seville
25 cs, Irving Trust Co, Skagway, Seville
80 cs, Hellenic Bank & Trust Co, Skagway, Seville
200 cs, Penson & Co, Skagway, Seville
170 cs, Morales Fernandez & Co, Skagway, Seville
56 dms, Chemical Bank & Trust Co, Skagway, Seville
100 cs, Kirsch Bros & Co, Excelsior, Leghorn
200 cs, Samuel Kirsch, Excelsior, Leghorn
100 cs, Western Food Corp, Excelsior, Leghorn
100 cs, Abraham Musinck, Excelsior, Leghorn

OPIUM—250 cs, Mallinckrodt Chemical Works, Excelsior, Istanbul

ORTHOCRESOL—42 dms, Media, Liverpool

OURICURY WAX—54 bgs, Smith & Nichols, Fenris, Bahia
57 bgs, Wax & Rosin Products Co, Fenris, Bahia
124 bgs, Wessel, Duval & Co, Fenris, Bahia

PALM OIL—134 dms, Grace National Bank, Zini, Grand Bassa

PAPAIN—16 chests, E Meer & Co, Bucyrus Victory, Colombo
37 chests, American Ferment Co, Hollybank, Colombo

PATCHOULI LEAVES—34 bls, Norda Essential Oil & Chemical Co, Tweedbank, Penang

PEATMOSS—250 bls, New Amsterdam Import Co, Aalsdijk, Rotterdam
550 bls, Half Moon Mfg & Trading Co, Aalsdijk, Rotterdam

PEPPER, BLACK—282 bgs, Kane Importing Corp, Stirlingville, Hongkong
432 bgs, Otto Gerdau Co, Hollybank, Cochin
280 bgs, Polak Trading Co, Afoundria, Rotterdam
300 bgs, Anglo Cal National Bank, Horseshoe Splice, Tampico
137 bgs, Horseshoe Splice, Tampico
450 bgs, Becker-Muyer Seed Co, Marchen Maersk, Hongkong
600 bgs, C M Van Sillevoldt, Marchen Maersk, Hongkong
450 bgs, Wm M Allison & Co, Marchen Maersk, Hongkong
395 bgs, Kane Importing Corp, Marchen Maersk, Hongkong
100 bgs, Chung Tai Trading Co, Marchen Maersk, Hongkong
300 bgs, M Golodetz & Co, Marchen Maersk, Hongkong
37 bgs, W L Weltner, Aalsdijk, Rotterdam
72 bgs, C T Wilson & Co, Aalsdijk, Rotterdam
94 bgs, Polak Trading Co, Aalsdijk, Rotterdam
1,075 bgs, Otto Gerdau Co, Aalsdijk, Rotterdam
72 bgs, Aalsdijk, Rotterdam
296 bgs, Otto Gerdau Co, Niew Amsterdam, Rotterdam
150 cs, Niew Amsterdam, Rotterdam

WHITE—200 bgs, Becker-Mayer Seed Co, Marchen Maersk, Hongkong
150 bgs, Wm M Allison & Co, Marchen Maersk, Hongkong
300 bgs, Otto Gerdau Co, Marchen Maersk, Hongkong
150 bgs, M Golodetz & Co, Marchen Maersk, Hongkong
300 bgs, Marchen Maersk, Hongkong
450 bgs, Funch, Edye & Co, Aalsdijk, Rotterdam
50 bgs, R J Spitz, Stirlingville, Hongkong
50 bgs, Wm M Allison & Co, Stirlingville, Hongkong
100 bgs, A G Dunn, Stirlingville, Hongkong
150 bgs, Becker-Mayer Seed Co, Stirlingville, Hongkong
50 bgs, J Berlage & Co, Stirlingville, Hongkong
144 bgs, R Spitz, South Star, Rotterdam

PETROLEUM, CRUDE—108,304 bbls, Standard Oil Co N J, Front Royal, Cartagena
107,357 bbls, Standard Oil Co, N J, Pine Ridge, Cartagena
124,269 bbls, Standard Oil Co, N J, Esso New Haven, Puerto La Cruz
116,725 bbls, Imperial Oil, Ltd, Imperial Winnipeg, Puerto La Cruz
99,969 bbls, Gulf Oil Corp, Gulfhawk, Las Piedras

PIMENTO—100 bgs, A G Dunn, Irish Splice, Kingston
100 bgs, Archibald & Kendall, Irish Splice, Kingston
75 bgs, R T French Co, Irish Splice, Kingston
81 bgs, Geo Lueders & Co, Irish Splice, Kingston
27 bgs, Knickerbocker Mills Co, Irish Splice, Kingston

POPPYSEED—225 bgs, Catz American Co, Midland Victory, Rotterdam
100 bgs, A Gronowitz, Aalsdijk, Rotterdam
75 bgs, Levy & Levis Co, Aalsdijk, Rotterdam
100 bgs, Rudolph L Friedler, Inc, Niew Amsterdam, Rotterdam
100 bgs, Louis Furath, Inc, Niew Amsterdam, Rotterdam
300 bgs, Catz American Co, Niew Amsterdam, Rotterdam
275 bgs, Louis Furth, Inc, Mormaclark, Copenhagen
167 bgs, Levy & Levis Co, Excelsior, Istanbul

POTTERS COLORS—2 cs, American Express Co, Media, Liverpool
5 cks, American Express Co, Media, Liverpool

QUEBRACHO EXTRACT—18,721 bgs, C M Loeb Rhoades & Co, Bowmonte, Buenos Aires
4,313 bgs, International Products Corp, Bowmonte, Buenos Aires
46,366 bgs, River Plate Import & Export Corp, Bowmonte, Buenos Aires

QUICKSILVER—100 flasks, L H Keller & Co, Inc, Horseshoe Splice, Tampico

RADIUM ELEMENT—3 cs, Radium Chemical Co, Vinkt, Antwerp

RHUBARB—16 cs, Ellis S Ting, Marchen Maersk, Hongkong
8 cs, B C Ritchie Co, Marchen Maersk, Hongkong
16 cs, American Far Eastern Syndicate, Inc, Marchen Maersk, Shanghai

RUTILE SAND—4,320 bgs, Metal Traders, Inc, Spitfire, Brisbane
2,992 bgs, Bank New South Wales, Pioneer Gem, Sydney
2,232 bgs, F W Burk & Co, Pioneer Gem, Sydney

SANDALWOOD OIL—1 cs, Felton Chemical Co, Pioneer Gem, Melbourne

SEEDLAC—200 bgs, Mac Lac Co, Bucyrus Victory, Calcutta
100 bgs, Schwab Bros Corp, Bucyrus Victory, Calcutta
100 bgs, Gillespie-Rogers-Pyatt Co, Bucyrus Victory, Calcutta
1,250 bgs, Ralli Bros, Bucyrus Victory, Calcutta
100 bgs, Media, Liverpool
200 bgs, Wm Zinsser & Co, Hollybank, Calcutta
500 bgs, The Mantrose Corp, Hollybank, Calcutta
200 bgs, Mac Lac Co, Hollybank, Calcutta

SENNA LEAVES—10 ballots, Peek & Velsor, Hollybank, Tuticorin
35 bls, Max Van Pels, Hollybank, Tuticorin
10 bls, Peek & Velsor, Hollybank, Tuticorin
PODS—15 bls, Max Van Pels, Hollybank, Tuticorin

SESAME SEED—112 bgs, Louis Furth, Inc, Marchen Maersk, Hongkong
56 bgs, R J Spitz, Inc, Marchen Maersk, Hongkong

SHELLAC—600 bgs, Wm Zinsser & Co, Bucyrus Victory, Calcutta
200 bgs, E Meer & Co, Bucyrus Victory, Calcutta
200 bgs, Bucyrus Victory, Calcutta

SODIUM, CAUSTIC—123 dms, Light Work Product Corp, Wisconsin, Havre

TALL OIL—3 dms, G G Johnston, Mormaclark, Copenhagen
PITCH—819 dms, G S Ziegler & Co, Mormaclark, Stockholm

TAPIOCA, FLAKE—2,050 bgs, Geismar & Co, Fenris, Itajai
FLOUR—1,667 bgs, Geismar & Co, Fenris, Itajai
1,000 bgs, Fenris, Itajai
PEARL—1,190 bgs, Catz American Co, Fenris, Itajai

TEAWASTE—402 bgs, Harrison & Crossfield, Inc, Marchen Maersk, Keelung
650 bls, Harrison & Crossfield, Inc, Marchen Maersk, Shanghai

TUNG OIL—300 tons, Bunge Corp, Marchen Maersk, Hongkong
757 tons, Warner G Smith Co, Marchen Maersk, Shanghai
300 tons, Balfour, Guthrie & Co, Marchen Maersk, Shanghai

TUNGSTEN ORE—100 bgs, Wah Chang Trading Corp, Mormacsaga, Santos

VALONEA—4,791 bgs, Barkey Importing Co, Excelsior, Izmir

VARNISH—10 cs, O Eisman, Midland Victory, Rotterdam

WOLFRAM ORE—100 bgs, Chartered Bank of India, Australia & China, Marchen Maersk, Hongkong
200 bgs, Chartered Bank of India, Australia & China, Stirlingville, Hongkong

WOOL GREASE—20 dms, Media, Liverpool

YACCA GUM—397 bgs, American Cyanamid & Chemical Corp, Spitfire, Adelaide
75 bgs, G H Lincks, Inc, Spitfire, Adelaide
157 bgs, G H Lincks, Inc, Pioneer Gem, Adelaide

ZIRCON SAND—1991 bgs, Brown Bros-Harriman Co, Pioneer Gem, Sydney
1,983 bgs, Bank New South Wales, Pioneer Gem, Sydney
9,978 bgs, Bank New South Wales, Pioneer Gem, Sydney

Baltimore

CASSIA—175 bls, Van Norden & Archibald, Marchen Maersk, Hongkong
600 bls, Arnhold & Co, Stirlingville, Hongkong

IRON ORE—5,000 tons, General Refractories Co, Stirlingville, Masinloc

SODIUM SILICOFLUORIDE—250 bgs, E M Sergeant Pulp & Chemical Co, Mormaclark, Copenhagen

Boston

OSSEIN—814 bgs, Atlantic Gelatine Co, Midland Victory, Antwerp

TAPIOCA FLOUR—2,353 bgs, First National Bank of Boston, Fenris, Itajai

Norfolk

COCOA RESIDUE—3,200 bgs, Monsanto Chemical Co, American Traveller, Liverpool

MUSTARD BRAN—300 bgs, Atlantis Sales Corp, American Traveller, Manchester

Philadelphia

BONES—1,190 bgs, International Commercial Co, Spitfire, Brisbane

GALLNUTS—168 bgs, Philadelphia National Bank, Marchen Maersk, Hongkong

MANGANESE ORE—400 tons, Frank Samuels & Co, Bucyrus Victory, Calcutta

OLIVE OIL—120 cs, G Sabelli, Excelsior, Leghorn

PEATMOSS—400 bls, Half Moon Mfg & Trading Co, Aalsdijk, Rotterdam
250 bls, New Amsterdam Import Co, Aalsdijk, Rotterdam

PETROLEUM, CRUDE—80,300 bbls, Cities Service Oil Co, Powder River, Tampico

POPPYSEED—89 bgs, V L Cavanna & Co, Aalsdijk, Rotterdam

RUTILE & ZIRCON SAND—7,900 bgs, Orefractions, Inc, Spitfire, Brisbane

SODIUM HYDROXIDE—266 dms, Bergstrom Trading Co, Mormaclark, Copenhagen

SODIUM SILICOFLUORIDE—100 bbls, H Kohnstamm & Co, Mormaclark, Copenhagen

San Francisco

PEPPER, WHITE—225 bgs, D Hecht & Co, Marchen Maersk, Hongkong

TUNG OIL—200 tons, Vongehr Low China Co, Marchen Maersk, Shanghai
104 tons, D Hecht & Co, Marchen Maersk, Shanghai
320 tons, Pacific Vegetable Oil Co, Marchen Maersk, Shanghai

Sun Oil Company Advances Pack, Bates

Sun Oil Company, Philadelphia, has appointed Robert W. Pack director of production and has named Dr. John R Bates director of research. Mr. Pack's former position as general manager of the company's Gulf Coast division will be filled by a three-member management committee. Serving on the committee will be P. S. Justice, head of land and geological operations, Donelson Caffery, manager of supply and transportation, and Joiner Cartwright, general counsel.

In his new position, Mr. Pack, together with John G. Pew, vice-president in charge of production, will head the company's oil field operations in the eleven states where it has crude oil production and in the twelve states and Canada where it holds prospective acreage.

As director of research, Dr. Bates will be in charge of a new independent research department which the company has formed as the initial step toward consolidation of most of its scientific activities into a proposed science center at Newtown Square, Pa. He was formerly assistant to the vice-president in charge of manufacturing.

Construction of a physical laboratory has been started at Newtown Square, and plans are under consideration to move to that location most of the research and experimental work now being done at Marcus Hook and Norwood, Pa. The reorganization will not affect the geophysical laboratories in Dallas and Beaumont, Texas, and certain technical service groups will continue their scientific work at Marcus Hook and Toledo.

Assisting Dr. Bates in the new research department will be Dr. J. Bennett Hill, now manager of the development division of the manufacturing department. Dr. John M. Pearson, currently director of physical research and development of the production department, and Stewart S. Kurtz, jr., manager of the experimental division of the manufacturing department.

Trade Briefs

A. A. Nicholson, assistant to the vice-president of the Texas Company, will address the annual conference of the Louisville Area Foreman's Association, to be held in Louisville, Ky., on November 20.

Pan American Petroleum & Transport Company, controlled by Standard Oil Company of Indiana, has bought an option to purchase 132,000 shares of Root Petroleum Company stock at $25 a share from D. P. Hamilton, president of Root. The option expires December 19.

Gannon Heads Steamship Purchasing Agents Group

Francis C. Gannon has been elected chairman of the American Steamship Purchasing Agents Group, affiliated with the Purchasing Agents Association of New York. Mr. Gannon is purchasing agent for the Tankers Company. James A. Smith, of Luckenbach Steamship Company, was elected vice-chairman.

Bids Wanted

Aluminum roof coating, 1,000 gallons, Army Air Corps (Dayton 1, Ohio) invitation 354, November 26.

Amino acids, various, Department of Agriculture (Beltsville, Md.) invitation 296-48, November 20.

Bees wax, 5,040 pounds, Army Air Corps (Wright Field, Dayton, Ohio) invitation 436, November 26.

Carbon dioxide, liquid, 250 tons, as required from January 1 through December 31, 1948, Navy Department (Washington 25, D. C.) negotiation 4739, December 3.

Cellulose acetate butyrate dope, 480 gallons, thinner, 240 gallons, Army Air Corps (Wright Field, Dayton, Ohio) invitation 431, November 20.

Dishwashing compound, 16,600 pounds, various deliveries from January 1 through March 31, 1948, Department of Justice, Bureau of Prisons (Washington, D. C.) invitation 2912, December 2; 31,000 pounds, Quartermaster Purchasing Office (Oakland 14, Calif.) invitation 46, November 26.

Drugs and chemicals, including atropone sulphate, potassium acetate, quinacrine hydrochloride, quinine hydrobromide, quinine hydrochloride, quinine phosphate, and silver nitrate, various deliveries, Veterans Administration (Washington 25, D. C.) invitation A-61, November 20; strychnine phosphate, strychnine sulphate, thyroid, zinc iodide, zinc oxide, and zinc phenolsulphonate, various deliveries, invitation A-60, November 19.

Grease solvent, as required from February 1, 1948, through January 31, 1949, Treasury Department (Washington 25, D. C.) class 51, Federal Supply schedule, November 26.

Linseed oil, alkali refined, 62,000 pounds, and raw, 62,000 pounds, Navy Department (Washington 25, D. C.) negotiation 4786, November 28.

Oil, corrosion-preventive, 8,870 gallons, Army Navy Petroleum Purchase Agency, attention AFMSP-5 (Washington 25, D. C.) invitation 7, November 25.

Oleomargarine, type II, 211,520 pounds, various deliveries, Veterans Administration (Washington 25, D. C.) invitation 75-S, November 20.

Paint, enamel, 37,405 gallons, Army Air Corps (Wright Field, Dayton, Ohio) invitation 429, November 25; 5,475 gallons, Navy Department (Washington 25, D. C.) negotiation 4742, November 26.

Paint, various, 1,600 gallons, Army Engineers Corps (Chicago 5, Ill.) invitation 30, November 19; 1,000 pounds, Veterans Administration Hospital (Lebanon, Pa.) invitation 48-125, November 18.

Photographic developer, X-ray, various deliveries, Veterans Administration (Washington 25, D. C.) invitation A-59, November 19.

Plastic wood, 1,750 pounds, Navy Department (Washington 25, D. C.) negotiation 4743, December 1.

Rust remover, phosphoric acid type, 2,500 gallons, H.Q. Marine Corps, Navy Department (Washington 25, D. C.) schedule 248, November 24.

Primer, lacquer resisting, 1,500 gallons, and thinner, 3,000 gallons, Army Chemical Center, Md., invitation W-149, November 21.

Salad oil, 32,750 gallons, Veterans Administration (Washington 25, D. C.) invitation 74-S, November 20.

Soap, laundry, chip, 3,000 pounds, powder, 2,000 pounds, Treasury Department (Fort Worth, Texas) invitation FW-2458, November 20; laundry, chip, 190,700 pounds, bar, 278,900 pounds, powder, ordinary, 315,500 pounds, powder low-titer, 10,400 pounds; **toilet,** white floating, 164,850 pounds, Veterans Administration (Washington 25, D. C.) invitation 70-S, November 19.

Thinner, enamel, 825 gallons, Navy Department (Washington 25, D. C.) negotiation 4742, November 26.

Trichlorethylene, 1,643 gallons, Army Ordnance Department (Bridesburg, Philadelphia 37, Pa.) invitation 86, November 21.

Varnish, various, 34,721 gallons, Navy Department (Washington 25, D. C.) negotiation 4743, December 1.

Wax, floor, 2,165 gallons, and 30 pounds, Army Engineers Corps (Chicago 5, Ill.) invitation 38, November 20; general purpose, 8,600 gallons, Navy Department (Washington 25, D. C.) negotiation 4743, December 1.

White lead, in oil, 2,000 pounds, Veterans Administration Hospital (Bronx 63, N. Y.) invitation 48-271, November 18.

Synthetic Anodynes Study .

—Continued from page 5

facturers Association, and heads of the medical schools of several universities. Dr. Eddy's communication is, in part, as follows:—

All potent analgesics must be considered as potentially addicting until proved otherwise, and addiction liability is a major factor in the safety of any analgesic substance. When a new agent is discovered, reliable information on its addiction liability may be obtained most quickly through the United States Public Health Service which has the facilities for making the needed tests. That service will be guided by this committee in its choice of agents worthy of testing and in the conduct of the experiments. The committee will, therefore, be glad to consider any data you care to submit and make recommendations to you and, if necessary, to the Public Health Service.

Specifically it is suggested that submitting to the committee full information on new analgesic agents at the transition stage from laboratory to clinical testing or earlier, when your priority interests have been established, can be of material help to all concerned. The committee might also act as a repository of information in this important field of synthetic substances. If manufacturers were willing to supply the committee with information about their plans and accomplishments, much duplication of effort might be avoided.

The committee will be glad to know your opinion concerning such a a plan and to what extent you would wish to participate.

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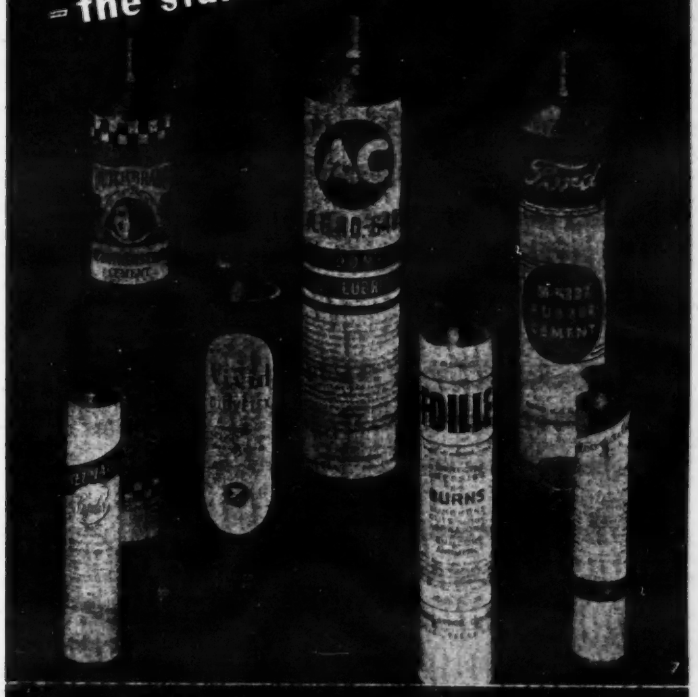
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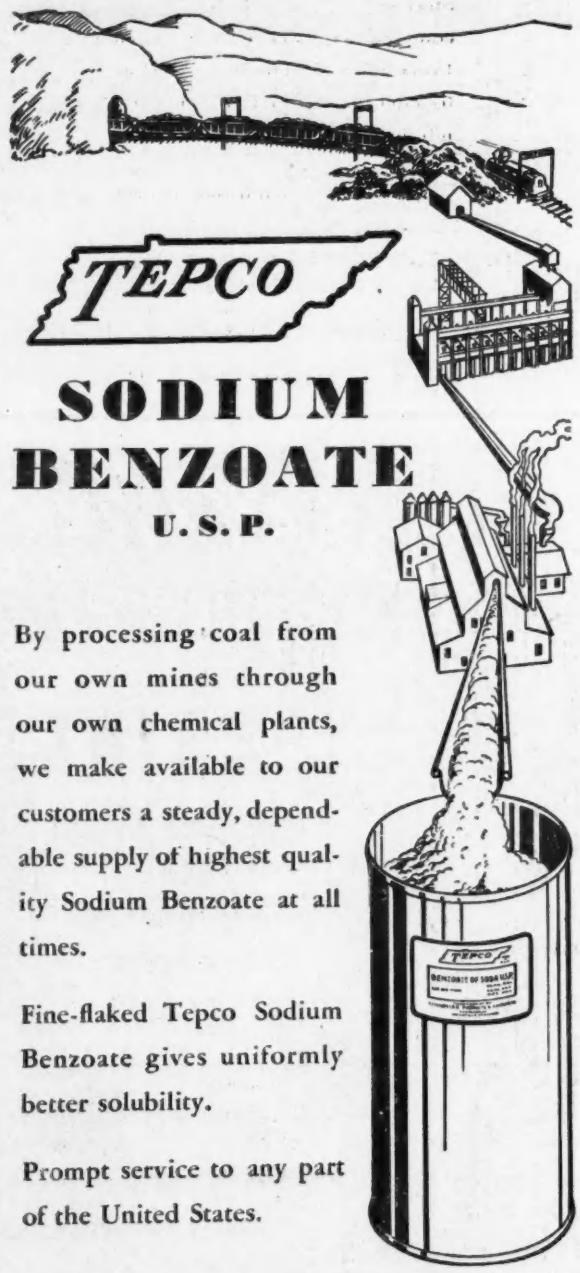

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Obituaries

Shreve M. Archer

Shreve M. Archer, chairman of the board of Archer-Daniels-Midland Company, Minneapolis, died recently at Miller hospital, St. Paul, Minn. He was fifty-nine years old.

Mr. Archer joined the Archer-Daniels-Midland organization in 1912 and was elected vice-president in 1923. The following year he was named president and directed the activities that made it one of the largest processors of vegetable oils in the country. He had previously been president of the Toledo Seed & Oil Company and president of the Dellwood Elevator Company.

Pierce Colton

Pierce Colton, associated with the sales department of Velsicol Corporation, Chicago, for the past two years, was shot to death recently by a hitchhiker to whom he gave a "lift" on a road in Tennessee. Mr. Colton resisted the hiker's attempt to rob him. The killer was later apprehended and is now awaiting trial.

Julian S. Gravely

Julian S. Gravely, retired president and chairman of the board of directors of Beryllium Corporation of America, died November 10 at his home in Exeter Township, near Reading, Pa. Mr. Gravely, who was sixty years old, was at one time manager of the Crown Cap division of Continental Can Company.

Philip W. Henry

Philip W. Henry, president of Achotla Mines Company and Suriana Mining & Smelting Company, vice-president of Rensselaer Polytechnic Institute and consulting engineer, died recently at Presbyterian hospital, New York. He was eighty-three years old.

Mr. Henry had been vice-president and general manager of the Barber Asphalt Paving Company until 1902, was vice-president of the Medina Quarry Company from 1902 to 1904, and was vice-president of the A. L. Barber Company and the Pan-American Company of Delaware for the next five years. He was a former president, and since 1924, secretary of the American Institute of Consulting Engineers.

George Karrass

George Karrass, research specialist for Dodge & Olcott, Inc., perfume specialties firm, New York, died recently at his home in Glendale, N. Y. He was sixty-two years old. Mr. Karrass joined the Dodge & Olcott organization forty-four years ago and at the time of his death was engaged in specialized research work on new products in the perfume and flavoring lines.

Charles W. Lenth

Charles W. Lenth, director of research for the Jaques Manufacturing Company, Chicago, died at his home in Wilmette, Ill., on November 10 at the age of thirty-nine. During the war Mr. Lenth served as chief of the soap and glycerine division of the War Food Administration. He held eleven American and foreign patents.

William E. Matthews jr.

William E. Matthews, jr., district manager of the Chilean Nitratrate Sales Corporation for Georgia, died November 10. He was sixty-nine years old. Mr. Matthews spent his entire business career as a salesman of Chilean nitrate. He joined the Anglo-Chilean Nitrate Company in 1927, and, when that organization was merged with the Chilean Nitrate Sales Corporation in 1931, he became district sales manager for Georgia.

Thornton J. Avery, assistant sales production manager of the Richfield Oil Company, New York, died recently in Alpine, N. J. He was forty-four years old.

John E. Green, jr., general attorney for the Gulf Oil Corporation, died recently in Houston, Tex. He was sixty-seven years old. Mr. Green became associated with the Gulf Refining Company and allied firms in 1919, and was named general attorney for Gulf Oil in 1929.

Charles A. Lewis, former editor, died in Orange Memorial Hospital, Orange, N. J., on November 11. He was fifty-three years of age. Mr. Lewis was on the staff of various trade journals and house organs, including the "Soda Fountain" and "Pharmaceutical Era" and the paper of The Hercules Powder Company. He was also associated with the public relations department of American Petroleum Institute.

Thomas W. McDevitt, founder of the California Cotton Seed Oil Company and the Copra Oil & Metal Company of Los Angeles, died recently at St. Vincent's hospital, Los Angeles. Mr. McDevitt has been retired for the past seven years.

Dr. Donald P. Robertson, associate medical director of Merck & Co., manufacturing chemists, Rahway, N. J., died recently at Presbyterian Medical Center, New York. Dr. Robertson had been a member of the medical division for more than ten years, and was credited with making important studies on penicillin and streptomycin.

John H. Smallbrook, of Baltimore, retired engineer for the Standard Oil Company of New Jersey, died recently while visiting in Roselle Park, N. J. He was seventy-two years old. He had been connected with the oil company for many years before his retirement in 1935.

John R. Van Fleet, president of United States Vanadium Corporation, New York, died at his home in Tucson, Ariz., on November 10. He was sixty-four years of age. A mining engineer, he worked on a number of mining projects in western states.

Lemke Creates New Line of Subdivisions

B. L. Lemke & Co., manufacturer of fine chemicals, New York, has expanded its activities by the creation of a new line of subdivisions. The company, which formerly distributed its products in bulk quantities, will now make some available in small packages for sale to drug stores, hospitals, research institutions, and so forth.

Trade Briefs

Cosmetics and toothpaste have been included on a list of non-essential imports for which licenses will be required in the future by Portugal.

Oil products, metals, cellulose and other products will be shipped to Bulgaria from Russia in exchange for minerals, agricultural products and other materials from the former country.

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APMA Announces Partial Midyear Meeting Program

A partial program has been announced for the midyear meeting of the American Pharmaceutical Manufacturer's Association, to be held at the Waldorf-Astoria hotel, New York, on December 15-17. Included on the program are the following:—

Monday, December 15

Opening of the meeting by president James L. Rogers, president of the Central Pharmacal Company, Seymour, Ind., and addresses by H. R. Horner, of Frank W. Horner, Ltd., Canada, president of the Canadian Pharmaceutical Manufacturers Association, and Fred J. Stock, of Charles Pfizer & Co., New York, president of the Drug, Chemical and Allied Trades Section of the New York Board of Trade. Progress reports will be made by Dr. E. Fullerton Cook, chairman of the committee on the U. S. Pharmacopoeia, and Dr. Justin Powers, chairman of the committee on the national formulary.

The afternoon session will feature a panel of speakers on economic and social trends, presided over by S. DeWitt Clough, president of Abbott Laboratories, Inc., Chicago. Speakers will include Dr. Morris Fishbein, editor of the journal of the American Medical Association, and Dr. R. L. Sensenich, president-elect of that association.

Tuesday, December 16

Dr. George F. Lull, secretary and general manager of the American Medical Association, will preside over the morning session. Dr. Austin Smith, secretary of the AMA council on pharmacy and chemistry, will deliver the opening address and other speakers will present papers on basic research in drug therapy. The afternoon session, featuring a second series of papers on basic research, will be presided over by Dr. Fishbein.

The annual scientific award of the APMA will be presented to the AMA at a dinner on Tuesday evening. Dr. Edward L. Bortz, president of the medical association, will deliver the principal address, and Dr. Sensenich will receive the award on behalf of the association.

Wednesday, December 17

The morning session will be devoted to a discussion of management problems, with Elmer H. Bobst, president of William R. Warner & Co., New York, presiding. At the afternoon session Franklin P. O'Brien, vice-president of G. D. Searle & Co., will preside over a panel on pharmaceutical marketing. Speakers will be Dr. J. Mark Hiebert, executive vice-president of Sterling Drug, Inc., New York; William D. McAdams, president of William Douglas McAdams Agency, New York, and Kenneth F. Valentine, president of Pitman-Moore Company, Indianapolis.

Carnegie-Illinois Steel To Build New Coke Ovens

Carnegie-Illinois Steel Corporation has awarded a contract for the construction of a new coke oven battery at its Gary, Ind., works. The new battery, which brings the company's total to sixteen, will include seventy-seven ovens and will have a daily coke production capacity of 1,096 tons. The addition of this battery, on which construction will begin at once, will increase the Gary works' coking installation to 1,132 coke ovens.

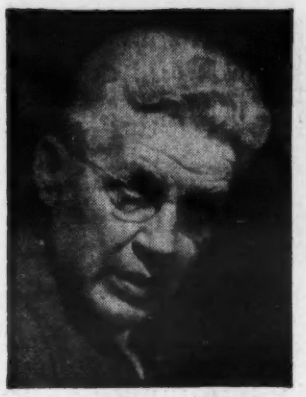
Glidden Names Burruss

The Glidden Company, Cleveland, has appointed David N. Burruss jr., formerly general manager of its Metals Refining Company division, director of engineering, and has named E. P. Palmer acting manager of the division. Mr. Palmer was formerly superintendent of the Metals Refining Company, which is located at Hammond, Ind.

Mr. Burruss, who will move to the company's headquarters in Cleveland, joined the organization in 1923 as a foreman in the chemical and pigment division. He served various capacities in that division and rose to be manager of its plant at Collinsville, Ill. He was later made vice-president of the naval stores division at Jacksonville, Fla., and was named general manager of the Metals Refining Company in 1935.

Raschig Rights Vested by OAP

All interests, rights, and tangible records and other information of Dr. F. Raschig G.m.b.H., Ludwigshafen, Germany, in connection with an option agreement, dating from September, 1936, with the Dow Chemical Company, have been vested in the Attorney-General of the United States by the Office of Alien Property, in vesting order 10084, published November 13. Among other things involved in the agreement is United States patent No. 1,963,761.



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Botanical Drugs, Spices, Gums

Prices for medicinal botanicals were rugged entities last week. With better than a good demand prevailing throughout the period, prices showed a firmness that had been forecast by some dealers as far back as last September. The fact that many articles were of seasonal importance was not without its effect on the general situation but more influential was the conservative size of stocks of domestic items, the relatively high cost at which collection was achieved last season, the difficulty in getting quality botanics abroad, and the constant rejection of arrivals, a fact that contributed to holding released merchandise within conservative limits. Dealers resisted most attempts toward bidding on the part of buyers, being aware of values and being determined to obtain them.

Condimental materials put on an excellent exhibition of price strength resulting from the development of short supplies in a market where overstocking had produced price weakness not so long ago. By a wide majority, advances in quotations won over declines and by the close of the week, numerous materials displayed signs of entering the category of the nominal; quotations on such goods were subject to prior sale in most instances and to confirmation in practically all of them.

Cables from foreign parts showed little that was advantageous to the local importers. Foreign shippers displayed little weakness in their price views and although they wanted dollar credits, the want did not always lead to the acceptance of bids. This was as true of medicinal botanicals as of condimentals and it added strength to an already stalwart market.

Balsams

Copaiba—A good sized jobbing request prevailed throughout the spot market last week, giving support to prices and tending to keep competition within rather confined limits. Quotations appeared to be generally steady. A total of 14 drums arrived from Cristobal.

Fir—Undertones were generally steady and prices held firm regardless of the not very active interest displayed in the materials by manufacturing consumers. Stocks were generally conservative in size and held in firm hands.

Peru—Inquiry showed a moderate increase and some said sales were up conservatively. Pricewise, the market was very steady in local circles where fair sized stocks were well maintained.

Tolu—The market was relatively quiet but held firm as to price in keeping with the moderate size of local stocks, the prevailing cost of replacements, and the absence of weakness in replacement prices prevailing at the origin.

Barks

Angostura—Somewhat more inquiry was noted but sales gained little, if any. The general market was firm in price and not overly well supplied with prompt delivery merchandise.

Black Haw—Stocks were relatively small and held in strong quarters where the reserve was not thought to exceed the probable requirements of manufacturing consumers between now and the collection of another crop. Prices were stoutly maintained in all quarters.

Cinchona—The west Java area reoccupied by Dutch forces has been again reported as undamaged beyond the burning of a few buildings. Workers who had been driven from the plantations have returned. Production is expected to be resumed and a Dutch report says that 85 percent of the prewar 36,000 acres under cultivation was in the reoccupied area. Little is said regarding the 4,500 acres cultivated prewar in Sumatra. Inventories of stocks in the reoccupied areas have not been completed. However, 1,000 metric tons were found in store at Cheribon of which quantity, 300 metric tons already have been shipped to the United States. The balance will go to Holland.

Beans

Tonka—Selling gained moderately, consisting of the movement of lots of smaller size but totaling a volume productive of continued firmness in the price structure on spot.

Vanilla—The basically firm price position was undisturbed and sellers indicated that prices would ultimately have to reflect on spot the fact that goods now bought in the French islands are obtainable only at a very substantial advance in quotations. Demand also acts as a strengthening element in the spot market where little or no competition exists at the present time, mainly for the reason that the cost of current stocks precludes any shading and also because all dealers are faced with a substantially higher replacement cost at the origin.

Berries

Derris—This is the first importation of this article ever reported openly in this market. The arrival consisted of 17 bales of berries and they originated at Singapore. It was impossible to get a spot price on the item last week.

Juniper—Activity lagged on spot. The fact that gin production is "enjoying" a holiday may have had something to do with the sluggish aspect of the local market but it was also known that the principal manufacturing consumers hold ample warehouse stocks of this item.

Flowers

Arnica—The market was not overly active but it showed a fair degree of firmness, notwithstanding. Arrivals have not been substantial in size and the reserves in local godown were distinctly conservative in size. Quotations were well maintained, apparently.

Calendula — Small, jobbing-sized orders noted but even business of that sort came rarely to the local market last week. Stocks were conservative in size and replacement offerings were not numerous.

Clover—Jobbing business was fair in size and created a very steady price position in local circles. Stocks were expected to cover requirements fairly well during the months ahead.

Linden—Demand was mainly on a hand-to-mouth basis last week but it reached the spot without that steady quality calculated to put the article under normal request. Pricewise, the market was very steady throughout the entire period just closed.

Saffron—Single pound lots of Spanish flowers came in for a fair sized demand but on the whole the jobbing interest shown by manufacturing consumers was without

Market Trends

Prices Advanced

Drugs

None

Other Articles

Anise, star, 1½c. per lb.
Cardamom fruit, bleached, bold, 20c. per lb.
medium, 5c. per lb.
Cassia buds, Chinese, ½c. per lb.
Cassia rolls, selected, Chinese, ½c. per lb.
Celery seed, French, 1c. per lb.
Indian, ½c. per lb.
Cloves, Madagascar, ½c. per lb.
Laurel leaves, Portuguese, ordinary, ½c. per lb.
Marjoram, Chilean, 1½c. per lb.
Nutmegs, East Indian, 2c. per lb.
West Indian, spot, 3c. per lb
futures, 2c. per lb.
Pepper, black, spot, 2c. per lb.
futures, 2c. per lb.
white, 3c. per lb.
Sage, Dalmatian, 1c. per lb.
Greek, fancy, 4½c. per lb.
Turmeric, Alleppey, ½c. per lb.
Madras, 1½c. per lb.

Prices Reduced

Drugs

Digot, 5c. per lb.

Other Articles

Anise, Cyprus, 1½c. per lb.
Cardamom, decorticated, Guatemala, 5c. per lb.
Coriander seed, Morocco, ½c. per lb.
Cumin seed, Persian, 1c. per lb.
Syrian, 1c. per lb.
Fennel seed, Indian, ½c. per lb.
Marjoram, French, 4c. per lb.
Poppy seed, Dutch, 1c. per lb.
Turkish, ½c. per lb.

Comparative Price Indexes

(100=August 1, 1914)

Last week.	Prev. week.	Last month.	Last year.
256.6	257.0	258.5	294.4

(For Current Prices see Page 9)

Imports Detained by FDA

Week Ended November 7

Basil leaves, 5 bags: filthy.
Cassia, 400 bales: Insect infested.
Celery seed, 28 bags: dead insects.
Colombo root, 420 bags: contains insect filth and insect bored.
Coriander seed, 448 bags: filthy.
Cumin seed, 300 bags: filthy.
Dill seed, 158 bags: dead insects.
Hyoscyamus muticus, 87 bales: not official variety.
Nutmegs, 94 bags: wormy and moldy.
Pepper, black, 150 bags: excess siftings and pickings.
Thyme leaves, 4 bags: not official variety.

For Late Market Developments, See Page 4

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effect on the generally steady price position reported as prevailing in local circles.

Gums

Arabic—Movement was very fair in size. Takings were about normal in size and they were taken on a price basis definitely firm and free from any tendency toward competition in most instances on the spot. Stocks were sufficient to care for any reasonable expansion in the requirements of buyers.

Benzoin—This product of Sumatra was about steady although competition has not been entirely cleared from the market and it was felt that, occasionally, the prevailing market price might be subject to shading. Stocks were ample when compared with the current requirements of manufacturing consumers.

Euphorbium—Stocks were conservative. Replacement arrivals have not been substantial in size nor continuous in arrival over a considerable period of time. Undertones were firm even though demand lacked force most of the time last week.

Gamboge—All stocks were conservative in size and all were held in very firm hands whose disposition toward competitive shading of quotations was not prominently a part of transactions during the past week. Replacement costs were well maintained at the point of origin.

Karaya—In steady request and wanted in quantities about normal for this material, the market was steady to firm and prices were well maintained throughout the past week.

Locust Bean—Fair demand was said to have developed early last week and to have continued throughout the period. However, the price situation was still somewhat unsettled and some reported that open market quotations had been shaded occasionally. Supply was said tot care well for demand at its current volume.

Herbs and Leaves

Belladonna—Prices failed of further development, coming to a very firm position early last week and being well maintained under the influence of a demand which some said showed a gain over that in recent weeks. Stocks were held in very firm hands.

Buchu—Demand was not impressive for size but it had a steady quality that fitted in well with the firmness at which local prices prevailed during the past week. Stocks were not excessive.

Euphorbia Pil—The call varied considerably according to seller but in the main the movement was conventional and in volume sufficient to keep prices to an exceptionally firm position during the past week.

Lobelia—Definitely an item of strength locally where stocks were comparatively light and where replacement in primary markets was being found an accomplishment not readily realized.

Laurel—Cyprian leaves were lower at 11c. to 11½c. per pound and ordinary Portuguese material was higher at 10c. to 10½. Other varieties failed to develop price movement during the past week.

Marjoram—Chilean sold more actively last week and business was sufficient first to strengthen and then to advance quotations to the basis of 12c. to 12½c. per pound. French herb was quoted at 38c. per pound.

Peppermint—While demand was irregular, it was more active according to some quarters and the market appeared to gain in strength, although quotations failed to develop a change last week.

Sage—Dalmatian material turned slightly lower last week, selling on the basis of 27c. to 28c. per pound under conditions featured mainly by the irregularity of demand and inquiry. Fancy Greek leaves were held at 18c. to 18½c.

Miscellaneous

Agaric—Mentioned last week, though not very prominently since few have any in store and for the most part quotations were on a nominal basis. No arrivals have been reported for a long time.

Balm of Gilead—Seasonal request has shown its usual rise and the movement continued to be very good throughout the past week. Supply was in fair shape but the holdings were not in excess of normal size and were expected to shrink substantially during the weeks ahead.

Cantharides—The call was on a hand-to-mouth basis, needs of buyers involving small quantities and passing through the market without effect on the prices prevailing in local circles.

Colocynth Pulp—Trading was fairly active. More than the usual quantities were called for, according to some quarters, the more

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Anise Oil	2.5 Gm
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Potasssium carbonate	3 Gm

The second fraction, 350 Cc, is *Raki* or *Rakee* to which must be added 10 Gm of powdered sugar. Subsequent production starts with mixing fraction No. 1, 250 Cc, and No. 3, 160 Cc. Add 90 Cc water; alcohol, 35%, 500 Cc; anise oil, 1.25 Gm; mastic, 7.5 Gm; and potash carbonate, 3 Gm. Distill as before, the second fraction (350 Cc) being *Raki.*

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Nov. 18, 1883—Standard Time adopted.
Nov. 19, 1863—Lincoln made Gettysburg address.
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active demand has given prices a somewhat firmer undertone.

Ergot—The market appeared to be easier and more competitive. Quotations were $1 to $1.05 per pound and some reports suggested possible shading of that price position, although the market as a whole did not have that approach to selling. Accessions to stocks over the past month or two have been substantial.

Roots

Angelica—The substantial quantity of imported root recently shopped around this market failed to catch on and, so far as learned, the lot remained unsold at the close of last week. Some criticism of the quality was heard.

Arrow—The market was strong and tended toward a further advance on spot in order that the primary market position properly might be reflected. Replacement recently put spot quotations to a sharp rise and the situation prevailing last week did not suggest an early change in that market tendency.

Cohosh—Jobbing demand bettered some last week but the market was still on the sluggish side and trading was done under moderately competitive conditions.

Dandelion—Goods continued to arrive on this market from Rotterdam, the latest being 8 bales. Locally, the market was normally active and undertones as well as prices prevailed firmly throughout the period under review.

Doggrass—Steady to firm market conditions prevailed, requirements of buyers being about normal for this time of the year and trading being done in a market not overly abundant with stocks.

Gentian—Plentiful stocks and a not expansive consuming demand were reported last week. Conditions favored buyers with firm orders in hand and although open quotations were unchanged on the week, they were unquestionably competitive to a substantial extent.

Ipecac—Limited to moderate quantities of this material reached the spot last week, 14 bags coming from Cristobal and 10 bags from Cartagena. Because of the firmness governing replacement costs, the local market has similar undertone and sellers on the whole were disposed to exercise considerable reserve.

Jalap—Failure of substantial quantities to be shipped steadily from the Mexican source has been more than enough to keep prices firm. However, in addition to the lack of normal exports there has been a very good domestic demand, both of which work to the full maintenance of local quotations.

Pink—Stocks have not been quite so conservative for some years past—and for a long time, normal reserves have been lacking from this and the primary market. Conditions worked to the maintenance of a virtually nominal spot position.

Rhubarb—Chinese root continued to reach the spot, the latest arrivals being 24 cases from Hong Kong and 16 cases from Shanghai. Prices were rather week in local circles and the tendency to shade quotatitons when attractive blsiness pended was fairly general throughout the past week.

Turmeric—Alleppey root continued to advance the latest rise taking prices to the basis of 24c. to 24½c. per pound. Also, Madras root was higher at 20c. to 20½c. No developments were scored in root from Haiti.

Seeds

Anise—Cyprian seed in future arrival position was lower at 26c. to 26½c. per pound, and star anise advanced to 15c. to 15½c. During the period, 108 bags reached here from Tampico, Mexico.

Caraway—Dutch seed was more competitive and the market was lowered to the basis of 17¾c. to 18¼c. per pound.

Cardamom—Bold seed from India was sharply higher at $1.75 to $1.80 per pound, and the medium grade was up to $1.40 to $1.45. Guatamala seed was shaded to $1.10 to $1.15 for the decorticated item but India decorticated was unchanged.

Celery—Seed from India was higher at 22c. to 22½c. per pound for spots and at 21½c. to 22c. for future arrivals. French seed was also raised, ending the week at 31c. to 32c.

Coriander—The gin-making holiday has reduced distillers interest in forward purchases of this item. Morocco seed to arrive was cheaper at 9½c. to 10c. per pound.

Cumin—Some fair sales were made at 24c. per pound last week, following which the market was advanced to 25c. to 26c. per pound for the Persian and to 24½c. to 25c. for the Syrian article.

Fennel—The sole change in spot seed from India, which ittem ended the week fractionally lower at 15c. to 15½c. per pound.

Poppy—Dutch seed was lower at 25c. to 25½c. per pound for spot and 24¾c. to 25¼c. for futures. Also, Turkish seed afloat was shaded to 20c. to 20½c.

Spices

Cassia—China buds were fractionally higher at 23½c. to 24c. per pound and selected rolls went up to 12c. to 12½c. No other changes in price developed in this group.

Clove—Madagascar spice continued to show strength and spot goods were higher at 15c. to 15½c. per pound while futures were up to 12½c. tot 13c.

Nutmegs—Recent downward price trend was reversed and at the end of last week. West Indian material on spot was higher at 57c. to 58c. per pound; forwards went up to 56c. to 57c. East India was synpathetically higher at 54c. to 55c.

Pepper—Black pepper rose to 55c. to 56c. per pound for spots. Nearby futures were up to 52c. to 53c. and distant futures were no lower than 43c. to 44c. Also, white pepper was more valuable at 58c. to 59c. Arrivals of black pepper were 2,076 bags from Rotterdam and 2,295 bags from Hong Kong, China.

Merck Fellowships Available for 1948-49

The National Research Council has announced that the Merck Fellowships, which are supported by Merck & Co., Rahway, N. J., and administered by the council, are available for the academic year 1948-49. The annual stipends are in the range of $2,500 to $5,000, with an allowance for necessary travel.

They are arranged to give special training to young men or women who have demonstrated marked ability in research in chemical or biological science and who wish to broaden their fields of investigational activity. Candidates must submit evidence of training in these fields equivalent to that represented by the doctor's degree and must have demonstrated unusual talent for research. Study abroad may be approved in some cases.

Fields of study are in chemistry and biology, including the pre-clinical medical sciences. Initial appointments are for a term of one year, renewable for a second year and in exceptional cases for a third year. Further particulars may be obtained upon request from the National Research Council Fellowship Office, 2101 Constitution avenue, N. W., Washington 25, D. C.

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Essential Oils, Other Aromatics

Business in the essential oils and aromatic chemicals markets was considered generally good last week. The price index dropped, but only by three-tenths of a point, and it was felt that this slight tendency towards weakness was more than overcome by the strengthening of some products that had been in a lower position and by an encouraging number of inquiries and a good volume of sales.

There was still no great amount of large-quantity buying, but nevertheless purchases were being made at a steady pace. Buyers were still somewhat wary of prices dropping further and were for the most part taking goods only to fill current needs. Most consumers' stockpiles were thought to be fairly low, but there was no need to build them up to more than was needed for a few months because of the ready availability of nearly all products.

The spice oils were still doing well, and dillweed had again reached a strong position. Because of meager supplies and a brisk demand, it had started a steady climb several weeks back. About three weeks ago it began to lose ground, but soon rallied and as of last week was in a stronger position than it had been at any time this season. Some dealers predicted that the oil might gain even more strength in the next few weeks.

One large house reported that it had been doing a considerable business in citrous oils during the past week or so. Lemongrass was up, and this was of particular interest to the manufacturers of aromatic chemicals. As of last week they had not advanced their prices on the various lemongrass derivatives, but they were frank to state that they might be forced to do so within a very short time. Citronella Java was down because of a more abundant supply. Warehouse stocks were said to be low, but there were reportedly large shipments afloat, which were expected to arrive soon and make the oil more easily available.

The import situation was generally good and dealers were having little trouble in purchasing from foreign countries. The South American producers were especially busy in sending their products to this country.

Export business for the most part was good, with a number of the European countries buying as much as possible considering the currency and import difficulties. The South American countries were taking a fair share of goods, but it was reported that most of the foreign trade was being done with Switzerland, Belgium, Holland, Sweden and France. One house reported that it had recently noted a pickup in demand from England.

Europe was reported to be particularly eager to buy American oils and chemicals, and dealers here said that they could probably do a much larger volume of business were it not for the scarcity of money abroad and the efforts of the various foreign governments to discourage imports and at the same time encourage exportation of their own goods. Because of the difficulties involved in manufacturing, Europe was especially in need of aromatic chemicals. War damage made it impossible to use her own facilities at full capacity and the balance of her needs was expected to be made up by imports from this country, dealers said. The essential oils trade abroad was reported to be in a better producing position than the aromatic chemicals business.

Market Trends

Prices Advanced

Anise oil, Chinese, 35c. per lb.
Lemongrass oil, 10c. per lb.
Mandarin oil, Italian, 50c. per lb.
Rosemary oil, Spanish, technical, 15c. per lb.
Vetiver oil, Bourbon, $1 per lb.

Prices Reduced

Citronella oil, Java, 25c. per lb.
Lavandin oil, 5c. per lb.
Linalool, ex bois de rose, 30c. per lb.
Linalyl acetate, ex bois de rose, 25c. per lb.

Comparative Price Indexes

(100=August 1, 1914)

Last week.	Prev. week.	Last month.	Last year.
147.2	147.5	150.9	226.3

(*For Current Prices see Page 9*)

Essential Oils

Anise—Uncertainties about future conditions in the market for this oil drove the price up last week on both the inside and the outside of the range. The inside figure advanced from 65c. to $1 and the outside went up from $1 to $1.05. Demand was reported to be good and while supplies were still holding up there was much doubt among dealers concerning what to expect in the future because of the Chinese currency difficulties.

Bergamot—Demand for the natural Italian product was said to be brisk last week and supplies were adequate. Dealers said, however, that the oil would probably be selling better were it not for the high prices that must be paid at the source. The inside quotation showed no change from the last reported figure of $5 but the outside advanced from $5.65 to $6.

Bois de Rose—Supply of the Brazilian oil remained in an excellent position last week and dealers in New York reported that demand for the oil was not sufficient to absorb the large quantities now on the market. Pricewise, the oil was without feature, still being quoted at the previously listed figure of $3 on the inside and $5.50 on the outside of the range.

Cajeput—The market for the redistilled USP IX was on the dull side last week, with only a small demand for the oil reported by dealers in New York. Supplies were said to be sufficient to meet all normal requirements. There were no reported changes in the price range of $2.35 to $3.40.

Cassia—The USP was still being quoted at $2.40 to $3.75 last week, although dealers reported that it was very likely that this oil would become tighter as to supply within a short time. Those who deal heavily in the oil were anticipating a price rise in the not far distant future. Thirty drums of this oil were reported arriving in New York last week from Hong Kong.

Citronella—The Java oil took a tumble in price last week from $1.50 to $1.25 on the inside of the range although the outside remained unchanged at $4.75. Some dealers reported that they had little of the oil on hand at the moment although it was said that there were large shipments of it afloat and prices were being quoted on these goods. Demand was reported to be good.

Clove—Demand for the USP oil remained good last week and dealers said the supply was adequate to take care of all incoming orders. The price range remained unchanged at $1.30 on the inside and $1.70 on the outside. During the first five months of 1947, exports of clove oil from Madagascar and the Comoro Islands amounted to 368,800 kilograms, valued at 23,361,000 francs, according to a report from the American Consul at Madagascar.

Coriander—Dealers in New York reported last week that they were still unable to obtain any of this oil from Russia, and only a few of them had meager stocks on hand. Demand, when examined against the small supplies, was said to be brisk. The lack of balance in the supply and demand situation caused the outside of the range to advance from $30 to $33, although the inside of the range remained unchanged at $27.

Dillweed—This oil continued tight as to supply last week and dealers were hard put to find enough of it to fill their orders. Supply was still brisk. The price range of $6.25 to $7.40 showed no change, although it could not be predicted how long these figures would hold.

Geranium—The market for the Algerian and Bourbon oils was quiet last week. The Algerian was still being quoted at $15.25 to $21, and the Bourbon at $11 to $14.50. There were still no stocks of the Russian oil reported available.

Lavandin—A drop of 5c. a pound on the inside of the range was reported for this product during the period under review but otherwise the market was without particular feature. The change established a new figure of $1.75 but the outside remained unchanged at $3.75. Demand was reported to be satisfactory and supplies were adequate to take care of normal sales.

Lemongrass—This oil increased in price by 10c. a pound on the inside of the range last week, to establish a new figure of $1.35. The outside, however, showed no change from the previous listing of $2.30. The oil was in a favorable position as to supply and dealers reported that the demand was satisfactory. During the first five months of this year, 8,800 kilograms of the oil were exported from Madagascar and the Comoro Islands. The shipments were valued at 7,189,000 francs, according to the American Consul at Madagascar.

Lime—The market for the various lime oils was without particular feature last week, and each of the products held to their previous price levels. The expressed West Indian was still being quoted at $9.50 to $11.50, although some dealers reported that they were without stocks of it. The distilled Mexican stood at $3.80 to $5.15, and the West Indian at $4.25 to $6.30. The terpeneless was selling at $35 to $43 a pound.

Mace—The market for this oil remained firm last wek and demand continued to be

steady. Supplies were said to be adequate to meet all normal requirements. The product was still quoted at $5.20 to $8.75, after having come down in price during the previous week.

Mandarin—The Italian oil went up in price by 25c. a pound last week, to establish the range at $9 to $9.25. Demand was considered good and supplies were sufficient for the filling of all normal orders. The Brazilian oil showed no change from the previous listing of $5.75 to $8.40.

Nutmeg—There were no changes in the price structure of this oil during the period under review. Supplies were good and demand was satisfactory. The distilled oil ranged in price from $5.20 to $8.75 and the imitation was being sold at $2 to $2.50.

Origanum—There were still no changes in the price structure of this oil last week. The market was generally without feature and the oil was being sold at $3.20 to $3.50.

Palmarosa—Demand for this oil continued unchanged last week, with dealers reporting that the product was still being sold in satisfactory quantities. Supplies were said to be sufficient to satisfy the market. There were no reported changes in the price range of $6.25 to $9.

Patchouli—After coming down 25c. a pound during the previous period, this oil remained firm as to price last week and was being quoted at $13.25 to $45. The oil was still of varying quality, thus accounting for the wide range. The supply situation was satisfactory, considering that there were large quantities of the oil reported to be afloat.

Pennyroyal—There was no change reported in the price range of this oil during the past week. The market was featureless except for the reports that there were considerable quantities of the oil in transit and there was some speculation as to how these shipments would affect the market when they arrived.

Petitgrain—This oil remained in a firm position last week after declining in price during the previous week. It was being quoted at $3.15 to $4.30. For the first time in several weeks of declining prices the oil experienced a quiet week.

Pimento—Some dealers in New York reported during the week past that they were not offering quotations on the berry oil, although there were no changes in the last price listing at $4.25 to $6.50. The leaf oil was also without feature and was being quoted at $1.75 to $3.25. There were no noticeable changes in the supply and demand situation.

Rosemary—The Spanish, technical, went up in price last week from 90c. to $1.05 on the inside of the range although there were no reported changes in the outside figure of $1.50. The USP remained the same as to price, still being quoted at $1.15 to $1.80. Both oils were in an unchanged position with regard to supply and demand.

Sage—There was little of interest in the market for either the Dalmation or Spanish oils last week. The former was still being quoted at $4.50 to $5.50 and the other at $1.90 to $3.50. Both oils were in fairly steady demand and it was reported that there were ample stocks available to fill any normal incoming orders.

Savory—This oil was reperted to be out of stock by some dealers last week, but there were no changes in the price of $8, which had stood for some time. No figures for the outside of the range were available.

Snakeroot—The price range of $17.50 to $21 was reported unchanged for this product during the past week and the supply and demand situations remained largely what they had been for some weeks past.

Spruce—The market for this oil was reported to be without particular interest during the week just past, and the product was unchanged in price from the last listing of $2.25 to $2.75. There were no noteworthy changes reported in the supply and demand picture.

Thyme—The NF red was reported to be in a good position both as to supply and demand last week and the price structure remained firm at $2.65 to $3.30. It was said, however, that the $2.65 figure was fairly low and most dealers were inclined to place their own quotations slightly higher.

Turpentine—The rectified, NF, was still being quoted at 35c. to 53c. last week and there were no particular changes in the market, according to a survey of dealers.

Vetiver—An increase of $1 a pound on the inside of the range was reported for the Bourbon oil last week, while the outside remained the same. The change in price reestablished the range at $31 to $38. Dealers said that demand for the product was continuing satisfactorily and there were sufficient supplies available to accommodate all normal orders. The Haitian oil, it was reported, had improved considerably as to supply although demand for it was still not

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great. The price range remained unchanged at $28.50 to $33.

Wormseed — Despite rumors that had reached dealer circles in New York several weeks ago, the producers of this oil had yet to force up the market for their product and as of last week it was still $3.85 to $5.50. Total distillation of the oil this year was reported to be under that of the previous year and there was a strong doubt among dealers here that the stocks on hand would be sufficient to meet requirements should the producers try to hold their product too long in the hope of forcing higher prices.

Ylang Ylang—The various types of this oil were unaffected by price changes last week and the situation with regard to supply and demand remained about the same as it had been for some time past. The Bourbon was being quoted at $14 to $25, the first at $12.50 to $14.50, the second at $8 to $9.50, and the third at $5.25 to $7.50. During the first five months of this year, it was reported by the American Consul at Madagascar, 9,900 kilograms of this oil, with a value of 14,441,000 francs were exported from Madagascar and the Comoro Islands.

Aromatic Chemicals

Citral — This product, as well as the ionones, held its own as to price last week despite a rise of 10c. a pound in the price of lemongrass, from which all are derived. It was predicted in the trade, however, that the prices may advance shortly because of increased costs. The rectified citral was still being quoted at $3.90 to $5. Ionone ketone, alpha, was $12.30 to $16.40, the beta was $9 to $12.50, and the pure was $5.65 to $7.95. Ionone methyl, A, was still being quoted at $6.55 to $8.80, the D was $7.50 to $9.55, and the prime was still being sold at $4.55 to $6.40. Dealers reported that the demand for the various products continued at a satisfactory pace and supplies were at an adequate level.

Citronellal — This product, along with citronellol and hydroxycitronellal, remained unchanged as to price last week despite the uncertainties in citronella, from which they are derived. Java citronella was down 25c. a pound, but there were no reported changes in the Ceylon. Citronellal was still being quoted at $2.75 a pound and citronellol held firm at $3.85 to $4.75. Hydroxycitronellal showed no change from the previous listing of $6.50 to $7.50. There were no considerable changes in the supply and demand picture.

Linalool—The ex bois de rose dropped from $5.40 a pound on the inside of the range to $5.10 last week, largely because of the lowered costs of bois de rose from Brazil. There was no reported change in the outside figure of $6.85, however. Linalool ex lignaloe wood was unchanged as to price, still being quoted at $6.50 to $7.

Linalyl Acetate—The ex bois de rose fell off from $4.60 to $4.35 a pound last week on the inside of the range, in line with the cheaper costs of bois de rose but there were no reported changes in the outside of the range, which remained at $7.20. The ex lignaloe wood product was unaffected and was still being sold at $7.75 to $8.40, and the ex petitgrain likewise showed no change from its previous listing of $5.10 to $6. There were no reported changes in the supply and demand pictures.

Musk—There were no reported changes in the synthetics last week and the ambrette continued in a tight position because of the difficulties with the coaltar situation. Ketone and xylol were more freely available. The ambrette was being quoted at $8 to $14.25, the ketone at $4.60 to $5.20 and the xylol at $1.80 to $2. The xylol technical was $1.10 to $1.20.

Rexall Drug Elects Lane Vice-President

Rexall Drug Company, New York, has elected Thomas H. Lane a vice-president. Mr. Lane, who joined the Rexall organization in 1945, is director of sales promotion and advertising. During the war he was director of advertising, press and radio for the U. S. Treasury Department and had charge of the national campaign on behalf of war bonds.

Rh Blood Diagnostic Developed

A diagnostic anti-Rh serum, derived from human blood, has been announced by the Ortho Pharmaceutical Corporation, Raritan, N. J. It was developed by Dr. Philip Levine, director of the biological division of the Ortho Research Foundation. The serum permits accurate distinction between Rh-negative and Rh-positive blood, thus preventing fatal consequences by intragroup transfusions, and enabling selection of Rh-negative blood for affected infants of Rh-negative mothers. It is available to hospitals and clinical laboratories.

R.W. Bush Retires From Dodge & Olcott

Dodge & Olcott, Inc., perfume and flavoring materials firm, New York, has announced the retirement of Ralph W. Bush. Mr. Bush, who was with the organization for fifty-nine years, was secretary of the corporation at the time of his retiremen .

He started with Dodge & Olcott in the insecticide division in 1888, and is credited with being instrumental in aiding its growth. He also played a major part in the establishment of the perfume department and the flavor department, and was in charge of the company's production facilities at 180 Varick street, New York.

FDA Powers

—Continued from page 3

learned of the substitution it forbade use of the gum.

In ruling on the issue, the circuit court said, in part:—

"When defendant engaged in manufacture and distribution of cosmetics in commerce, there was in force this statute, (food, drugs and cosmetic act), enacted as a matter of public policy for the protection of the purchasing public. Defendant knew that the goods would pass into commerce. It knew that if these goods violated the provisions of the act, liability would be incurred.

"This liability it could not shift to the instrumentality which it had created for the purpose of accomplishment of the completed transaction of manufacture, distribution and sale. Rather, defendant was bound to see that its product, when introduced into commerce, was not antagonistic to and violative of the sovereign will, which, expressed in the act of Congress, enters into and becomes a part of all contracts relating to the production and distribution of articles in commerce.

Duty Owed to Public

"The person who brings goods into commerce, by whatever means or implements, is bound to see that the commodity thus put in commerce is not beyond the pale of the legislative act. In other words, one who owes a certain duty to the public and entrusts its performance to another, whether it be an independent contractor or agent, becomes responsible criminally for the failure of the person to whom he has delegated the obligation to comply with the law, if the nonperformance of such duty is a crime. Defendant may not put into operation forces of effectuating a placement in commerce of a prohibited commodity in its behalf and then claim immunity because the instrumentality it has voluntarily selected has failed to live up to the standards of the law."

In the second case, the defendant, Lelord Kordel, had been producing and marketing his own products since January, 1941, under various trade names, largely through "health food" stores. He also was the author of many papers on the subject of vitamins, herbs, minerals and nutritional diet subjects in general. No charge of falsehood is made as to the principal labels printed on the packages, but a misbranding charge was brought against the printed pamphlets and circulars.

The defendant contended that the literature was not only not shipped in the same carton with the products in all cases, and neither was it intended that the product and literature should be placed together by the dealer. He said that all of the printed matter was intended either to be mailed out or to be sold, as indicated by the fact that with the exception of the display placard, each piece either contained a price mark or a mailing permit with space for address.

Textual Relationship

In answer to these contentions, the court held:—

"We are convinced that the test is not of physical contiguity but of textual relationship. Viewed thus, the products and literature here involved were interdependent because without the latter, the former lacked the labeling necessary to inform the purchasing public of their uses and purposes—it is significant that the labels printed on the immediate containers did not indicate the purposes for which the articles were to be used. Hence, the literature was intended and essential to explain the alleged uses of the products. They constituted a supplement to the label physically attached to the product container.

"We agree with the district court that, because the literature was shipped by appellant or at his order, to the same consignees as the products, related to those products, and was intended to be distributed in relation to them, it did accompany the products into interstate commerce within the definition of the act. To hold otherwise would be to permit evasion of the act by the very easy subterfuge of printing a purchase price or a mailing permit on advertising matter otherwise unquestionably accompanying products into interstate commerce."

TGA Scientific Section To Meet December 4

The scientific section of the Toilet Goods Association will meet at the Waldorf-Astoria hotel, New York, on December 4. The morning session of the meeting will be opened with an address by Paul H. Douglas, president of the association, and will feature the following speakers:—

Dr. Erwin Di Cyan, director of Di Cyan & Brown, "Experimental Principles in Cosmetic Studies, Part II, Baby Powder"; Dr. Henry J. Wing, research director of the Northam Warren Corporation, "Liquid Nail Polish"; W. W. Edman, chief control chemist, Evans Chemetics, Inc., "A Method of Color Control for Cosmetic Powders"; G. Robert Clark, acting chief, cosmetic division, Food & Drug Administration, "Spectrophotometric Methods of Analysis for Some Cosmetic Ingredients," and Helen Discrens, Lois Hill and Patricia Miller, of the research and control laboratories, Bristol-Myers Company, "Emulsion Consistency As Related to Analytical Constants of Triethanolamine."

At the afternoon session, speakers and their subjects will be:—R. K. Rhodes, of the department of industrial research, L. Sonneborn Sons, Inc., "Methods For Evaluating the Functional Properties of Petrolatum"; Maison G. deNavarre, vice-president, Cosmetic Laboratories, Inc., "The Suspending Power of Gums"; Ernest S. Guenther and Edward E. Langenau, Fritzsche Brothers, Inc., "Some Newer Commercially Important Essential Oils of the Western Hemisphere," and I. R. Hollenberg, plant manager, Van Dyk & Co., "Emulsifier Development and Evaluation."

Fair Trade Proponents' Attitude Hit by Mock

Hugo Mock, general counsel for the Toilet Goods Association, criticized the "defensive apologetic attitude" of proponents of fair trade at a meeting of the American Fair Trade Council, held at the Waldorf-Astoria hotel, New York, on November 13.

Mr. Mock asserted that fair trade represented for the smaller merchant what unions and social insurance do for the workers. He stressed the fact that fair trade items were in competition with each other.

John W. Anderson, president of Anderson Company, Gary, Ind., who was reelected president of the council, declared that the organization would fight any attempt to repeal the Miller-Tydings act, now ten years old. He said that such repeal would "just about wreck fair trade."

Fordyce Heads Cellulose Chemistry Division of ACS

Dr. Charles R. Fordyce, superintendent of the manufacturing experiments department of the Eastman Kodak Company, Rochester, N.Y., has been elected chairman of the division of cellulose chemistry of the American Chemical Society. Dr. Fordyce succeeds Dr. Milton Harris, head of the Harris Research Laboratories, Washington, D. C.

Other officers chosen by the division are:—Dr. Rollin F. Conaway of E. I. du Pont de Nemours and Company, Waynesboro, Va., vice-chairman, and John S. Tinsley of the Hercules Powder Company, Wilmington, Del., secretary-treasurer. Named to the division's executive committee were:—Dr. A. G. Scroggie of the Du Pont company's Richmond, Va., plant and Dr. Wayne A. Sisson of the American Viscose Corporation, Marcus Hook, Pa.

Niagara Filter Corporation Publishes Descriptive Booklet

Niagara Filter Corporation, Buffalo, N. Y., has published a booklet describing the construction, capacity and operation of its various types of filters for the chemical, food, fermentation and process industries. The publication gives details and specifications for each type and suggests specific types for various applications. Copies may be obtained from the company at 3085 Main street, Buffalo 14.

Surplus Materials

—Continued from page 4

prox. 3,300 gallons, Williamsport, Pa., PHO-OL-638, November 25.

Petroleum jelly, white, 253,591 1 1/3-oz. jars, 4 cents per jar, Long Island City, N. Y., NYO-41-6682.

Sodium chloride, 12,936 bottles, 100 tablets per bottle, Albany, N. Y., MYO-D2-OL-0293, November 24.

Toilet goods, including skin lotion, foot powder, talcum powder, several lots, various prices, Long Island City, N. Y., NYO-41-6682, shaving cream and lotion, dentifrice, foot powder, shampoo, hair tonic, sunburn ointment, several lots, San Francisco, SFO-41-518, November 21.

Operating equipment and supplies currently offered by WAA in fixed-price and open-bid sales include the following:—

Air flasks, 1,041, various sizes, Long Island City, N. Y., NYO-71-6642, Novemer 21.

Bottles, plastic, capacity 4 fluid ounces, 4,991, Albany, N. Y., NYO-D2-OL-0294, November 25.

Vials, hard rubber or plastic, ½ oz. capacity, 4,371, Albany, N. Y., NYO-D2-OL-0293, November 24.

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Protective Coatings Materials

Following the recent price changes which were effected in recent weeks on such items as zinc pigments, chrome yellows, and certain resins, the paint raw material market was essentially static last week, in so far as price changes were concerned. Asbestos fiber however underwent an advance of $1.50 to $2 per ton depending on the type. The shorter fiber materials were advanced from $1.50 to $5.50 per ton while the longer fibers were advanced proportionately more in line with their higher price structure.

Supplies of lead pigments continued in a somewhat eased position as a result of lessened demand stemming from the decreased exterior painting operations which the colder weather has effected. These pigments, now available for the first time in many months on a non-quota basis are not considered as yet to be freely available in unlimited quantities. Demand for red lead and litharge continued strong. A new development in lead pigments likely to affect the overall white lead market in the future, is a lead silicate pigment in which the pigment particle consists of a silicious core completely coated with white lead giving the effect of a white lead pigment but conserving pounds of white lead used in any given formulation.

Carbon black production was sufficient to take care of consumers needs, and shipments were going forward out of current production with the demand steady. Stocks continued to gain. Iron blues were in good supply as were also chrome greens and chrome yellows. Titanium pigments continued tight and accordingly lithopone was being used as fast as peak production operations could turn it out.

The market situation on synthetic iron oxides remained unchanged so far as supply, demand and price were concerned. Of interest in this market was the commercial development of a pure synthetic iron oxide having the color and tone of certain organic reds without their fading and bleeding characteristics. Such a product is expected to be durable and find widespread use in industrial finishes which are now suffering from an acute shortage of organic toners. Urea-formaldehyde and melamine resins continued tight by virtue of the shortage of melamine, urea, and formaldehyde, but suffered most acutely from insufficient supplies of butanol and isobutanol which is an essential solvents for manufacturing these resin solutions. Alkyd resins of the glyceryl phthalate type were short with some large producers in the position of making considerably delayed shipments, while other producers were currently able to make fairly prompt delivery.

With a price rise last week of from 10 to 10¾ cents per pound on glycerin, the price of alkyd resins was likely to soon be adjusted upward.

Market Trends

Prices Advanced

Asbestos fiber, $1.50 to $5 per ton.

Prices Reduced

None

Comparative Price Indexes

(100=August 1, 1914)

Last week.	Prev. week.	Last month.	Last year.
182.2	182.2	181.0	155.7

(For Current Prices see Page 9)

Prime Pigments

Black, Carbon—Supplies of carbon black of the channel and furnace type used by the rubber industry were in demand by the long continued capacity production of natural and synthetic rubber fabricated goods. Orders were being filled in sufficient quantities to keep consumer plants operating, and inventories were accumulating. Furnace blacks were relatively free.

The unprecedented wide scale and large volume operations of the paint industry this year was reported to have put a strain on producers of the high quality type carbon blacks used in automotive finishes and other such industrial items. This situation was reflected in delayed shipments. Prices held firm and no change was expected before the first of the year.

Blue, Iron—Chinese, Milori, and Prussian blues which are the colors most widely used of this type, were said to be available for prompt shipment on spot orders at firm prices. Most producers were reported to be able to take care of the needs of all established customers and accept new accounts. Prices were unchanged.

Blue, Phthalocyanine—Demand for phthalocyanine colors, both blue and green, continued to exceed supplies because of lack of sufficient production capacity and intermediate chemical shortages such as phthalic anhydride. Prices held firm.

Green, Chrome—The various shades of CP chrome greens were still in a good market position last week from the standpoint of availability, while prices held firm at their current levels. Demand from the paint and printing ink industries continued strong, but with the free iron blue situation and the eased lead supply, production was quite ample to meet all calls.

Green, Chromium Oxide—Prices of this pigment were expected to hold firm after the November advance of 2c. per pound. No further change in the market was perceptible as the demand and supply relationship remained essentially unchanged from a month ago.

Lead Pigments—White lead pigments such as the basic carbonate and basic sulphate materials continued in a somewhat eased position as the colder months of late Fall brought a decline in exterior painting operations. Demand for lead as such was reported to continue strong from the various lead consuming industries, but the prediction was that this situation would not have an adverse affect on the supply of lead pigments. Supply and availability of lead pigments had eased to the point were allocation of material to customers on a quota basis could largely be abandoned. One factor likely to be significant in future demands for white lead, was the commercial development of a lead silicate pigment for house paints in which the pigment particle consists of a core of silitious material completely surrounded by a coating of white lead. Use of this composite pigment cuts down the amount of white lead as such in the paint formula, since the coated pigment particle performs much the same as a pigment particle which is composed of entirely white lead. The extent to which this pigment can be produced and used as a pure white lead replacement will have a significant effect on the white lead market.

Lead chromates used as chrome yellows and chrome oranges, and in the manufacture of chrome greens was reported to be in good supply at firm prices. Demand for litharge by the process industries continued strong. Red leads were still in strong demand for primer coating work, and supplies were somewhat less critical.

Red, Synthetic Oxide—The market for synthetic iron oxides continued strong last week with supplies in fair balance with demand. The most outstanding new development in the field of synthetic oxides was pure oxides having a mass tone and top tone closely resembling certain of the very critical organic red toners. These were reported to be dispersible in lacquer and enamel vehicles and readily ground to enamel fineness producing durable coatings of pronounced non-fading and non-bleeding characteristics. Prices of the synthetic oxides were firm at their current levels.

Red, Natural Oxides—Of most interest were Spanish oxide and Persian Gulf oxide which were reported to be coming into this country in much more satisfactory amounts, making for a considerably eased market situation at firm prices. Persian Gulf oxide, a widely used prewar pigment in the paint industry was preferred by many users because of its characteristic blue tone. For

Paint, Varnish, Lacquer Sales: September

The value of paint, varnish, lacquer and fillers in September, 1947, as reported by 680 establishments to the Bureau of Census, was $86,190,334. Details of sales reported by these establisments, with comparative data for 1946 and 1945, follows:—

	Total sales reported by 680 establishments.	Classified sales reported by 580 establishments: Trade-sales of paint, varnish, and lacquer.	Industrial sales: Total.	Industrial sales: Paint and varnish.	Industrial sales: Lacquer.	Unclassified sales reported by 100 establishments.
1947—September	$86,190,334	$44,930,525	$31,610,857	$23,814,702	$7,796,095	$9,649,152
Total, 9 months	805,927,615	434,995,803	228,442,082	248,627,643	67,348,009	84,736,040
1946—September	63,045,245	31,759,418	24,014,380	17,578,358	6,436,022	7,280,447
Total, 9 months	583,469,880	318,198,747	205,081,872	72,216,070	53,118,450	59,989,266
1945—September	48,020,267	26,011,054	16,851,178	12,540,036	4,311,142	6,158,035
Total, 9 months	493,176,250	228,820,852	213,616,752	162,207,669	51,409,083	50,732,646

For Late Market Developments, See Page 4

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SPECIFICATIONS

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Specific Gravity 15.5C	0.885	0.860	0.879
Refractive Index 20C	1.481	1.470	1.477
ASTM Distillation			
Intial B. P.	.....	170C	172C
5%	182C	.....	179C
95%	206C	.....	200C

PROPERTIES

Color: Faint Yellow.
Flash Point: Approximately 140F (Open Cup).
Solvent Power
Kauri Butanol: Over 200.
Mixed Aniline Point: (N-Heptane) 25C.

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several years imports of this pigment were extremely small and what was imported was generally used to fortify the color and tinctorial strength of the less desirable domestic and imported oxides then available, leaving Persian Gulf oxide of itself virtually off the market. Imports currently are of such a nature that once again the straight pigment is available in fair quantities to paint manufacturers, but supplies are not yet liberal.

Red, Cadmium Pigments—Production of cadmium reds was reported to be running virtually at capacity levels with prices firm under strong demand.

Yellow, Chrome—Following the November first increase in prices, chrome yellows and chrome oranges were expected to remain unchanged at least until the end of the year.

Yellow, Zinc Chromate—Supplies of zinc chromate were reported to be everywhere ample to meet demand from the paint industry and other corrosion inhibitor producers. Zinc chromate containing primers were being produced in large quantities, but the volume was considerably under the high set during the war years under the impetus of the aircraft and naval building programs. The war's end left ample production capacity for zinc chromate sufficient to meet domestic product needs at almost any level likely to be required. Prices were stable at their current levels.

Zinc Pigments—The barium sulphate extended lithopones continued under heavy demand with the paint industry still taking all the production that could be turned out. The pressure of demand for white goods was such that with insufficient titanium dioxide pigments available, lithopones were being pressed into service on the interior type finishes as much as possible.

Zinc oxide was still short in supply, although shipments were reported to be somewhat more prompt. Orders were being filled from production as rapidly as full plant capacity schedules could produce it. The leaded zinc oxides, made principally direct from ores were somewhat more readily available, with demand for the co-fumed type quite strong. Prices were unchanged following the recent rise on zinc pigments, and were expected to remain stable for sometime.

Synthetic Resins

Alkyd Resins — Glyceryl phthalate oil modified resins continued to be short with some producers running considerably behind on deliveries, while there were at the same time some producers in the more fortunate position of being able to make prompt shipment. The overall picture of supply, however, was generally one of demand in excess of supply. Phthalic anhydride remained the chief bottleneck in alkyd resin production, and while early next year was certain to see producing units in operation, the shortage of napthalene from which phthalic anhydride is mostly produced was not expected to improve significantly. The result to be expected was a continuing short supply. Production of phthalic anhydride from orthoxylene, while significant, represented a relatively small percentage of the potential output.

Prices meanwhile held essentially unchanged from the previous week. With a price rise in glycerin last week of 10c. to 10¾c. per pound, alkyd resin prices were soon apt to be advanced. The shorter oil industrial finishing types of alkyds were more critical than the long oil architectural types. Supplies of pentaerythritol and other polyhydric alcohols than glycerin for the manufacture of alkyd resins was generally in a heavier demand than could be promptly supplied, although the volume of resin production based on these alcohols was small in relation to the main production from glycerin. Maleic anhydride was quite short, and the amount of alkyd resins that could be produced from available quantities of this polybasic acid was a small but helpful factor in the supply situation.

Maleic Resins—Rosin modified maleic type varnish resins were generally in short supply due to the shortage of maleic anhydride. However, some producers with favorable maleic purchase quotas reported that their production was such as to permit prompt shipment in fairly large quantities. The overall demand for resins of this type has fore some months been on the decrease in relation to the demand for competitive types. However, the unprecedented large volume operations of the paint industry this year has tended to offset on a pound basis the lessened percentagewise use of meleic resins, and thus sustained the market. Perhaps the largest used resin in place of the straight rosin ester maleics has been the maleic modified pentaerythritol esters. Prices meanwhile held firm.

Phenolic Resins—Varnish resins of the phenolic type were generally in good availability, although the cresylic types were still somewhat short by virtue of the cresol shortage. Demand for the cresylic resins, however, was being considerably eased by the wider use of alkyl substituted phenolics which were fast becoming available at prices competitive with the cresylics, and surpassing them in performance. Most pure phenolic resins were available on spot orders for prompt delivery. Modified phenolic resins of the rosin extended types were likewise readily available. Production of phenolic modified pentaerythritol esters was going forward at full capacity under pressure of strong demand.

Silicone Resins — Supplies of silicone resins were still far short of demand, as production facilities remained small, and new expanded prodution plants were uncompleted. Prices held firm at their current high levels. New uses were daily developing which adds to the potential demand from the protective coating, pharmaceutical, and electrical insulation industries. Silicone oils for special lubricating uses were also being further studied and their application made practical. Typical of the special character of silicone resin uses was the coating of glass containers for fresh blood. When the interior of glass containers is coated with silicone resin, the blood keeping properties are claimed to be extended from two to eight hours or longer.

Urea-Formaldehyde and Melamine Resins—A tight market position prevailed with respect to both these resins widely used as vehicle modifiers in the production of fast baking industrial finishes. Melamine resins were critical because of a shortage of sufficient melamine and also because of the tight butanol supply situation, since butanol and isobutanol are used in large amounts as a solvent for making these resins. Urea-formaldehyde resins were in very much the same supply position, being affected by the butyl alcohol shortage and the short supply position on urea and formaldehyde. Prices, meanwhile, remained unchanged.

Lacquer Materials

Supplies of nitrocellulose were reported to be ample to meet all calls with spot shipments prompt. Ethyl cellulose was also freely available. Prices on these cellulose materials were firm. Chlorinated rubber was in strong demand in a fairly tight market. Since chlorinated natural rubber for protective coating work is technically more desirable than the chlorinated synthetic rubber as well as being lower in cost, producers have discontinued production of the synthetic product and now make only the natural chlorinater rubber, following the lifting of government controls on the latter product.

Miscellaneous Materials

Asbestos—The price of asbestos fibres advanced in price from $1.50 to $8.00 per ton

—Continued on page 90

Water Paint Sales: September

(Formerly Plastic Coldwater Paint Sales)

Sales of resin emulsion paints, plastic-texture paints, coldwater paints and calcimines for September, 1947, as published by the Bureau of Census, are based on reports submitted by 47 manufacturers, of whom nine reported data for resin emulsion paints exclusively. Nine of the remaining 38 manufacturers also reported sales for this product, bringing the total number to 18 for resin emulsion paints. The data for plastic-texture paints, coldwater paints and calcimines are based on reports received from 38 identical manufacturers who accounted for approximately 87 percent of the total value of these materials. The September statistics, as compared with those of the corresponding month in 1946, follow:—

Plastic-Texture Water Paints

	Pounds	Value
*Total	3,083,951	$224,341

* Includes paste and dry powder plastic-texture water paints which cannot be shown separately without disclosing the operations of the individual companies.

Resin Emulsion Paints

	Gallons	Value
Interior	433,622	$832,873
Exterior	22,483	57,648

Coldwater Paints

	Pounds	Value
Exterior, lime or cement-bound	3,972,412	$344,023
casein-bound	292,228	24,402
Interior, casein-bound, paste or semi-paste	149,676	233,155
dry-powder form	675,832	71,123
glue-bound	165,698	8,818

Calcimines

	Pounds	Value
Hotwater	672,318	$41,941
Coldwater	842,025	35,179

Sales of these products for September, as compared with those for the corresponding month last year, were as follows:—

		September 1947	September 1946
Plastic paints	lbs.	3,083,951	1,867,816
	value.	$224,341	$128,093
Resin emulsion paints	gals.	456,105	*
	value.	$890,521	*
Coldwater paints	value.	$681,521	$670,072
Calcimines	lbs.	1,314,943	1,643,827
	value.	$77,129	$73,365

* Not available.

Federation of Paint and Varnish Production Clubs

Twenty-Fifth Annual Meeting

Atlantic City, N. J., November 6 to 10

Celebrating its twenty-fifth birthday, the Federation of Paint and Varnish Production Clubs, in Atlantic City, November 6 to 10, set a new high record of attendance, with a total registration of 1,472; had a bigger business in technical papers and discussions, and voted to open its membership to a special class (E) of junior, senior, or graduate students in recognized colleges.

The federation amended its by-laws also to restore to its local constituents the designation "clubs," instead of "sections" as the new by-laws last year made it. A slight change was made also with procedure of balloting for class A members.

In the annual business session, the executive secretary, V. C. Bidlack, reported a gain for the year of 286 members, for a total of 2,297. The treasurer, A. T. Montanye, reported total assets of $32,243.84, the educational fund being $11,300. The detailed report will be made to the council later. Good income from advertising in the *Official Digest* was reported.

A new report was made, that of the foreign activities coordinator, Dr. J. J. Mattiello, who had but recently returned from representation of the federation in England and France, where a liaison with the federation was completed. A similar relationship with the Netherlands is almost completed, and Belgium is expected soon to be included. A movement to hold the second international congress of paint technicians in the United States in 1949 was launched. Supplemental information on conditions in Latin America was given by A. L. Skett. Organization in South America was said to be quite laggard.

The educational work of the federation was reviewed by Paul O. Blackmore, who said that the program is slowly progressing. New alkyds are being studied at Minnesota along with methods on acetate derivatives, methyl esters, and polyhydrics. Almost 50 percent of the allotted funds has been taken up, but the allocations are not evenly spread geographically. Appropriation of an additional $5,000 was suggested for council action.

In the joint educational program with the National Paint, Varnish and Lacquer Association, Mr. Blackmore said, three courses with some fifteen students are running at Northwestern; the Johns Hopkins night school has a good enrollment; two new fellows have been placed at Case School of Applied Science. Graduates in this program number twenty, and registrations now are 113. The program is being expanded in connection with Illinois Institute of Technology, Wayne University, San Francisco Junior College, University of Louisville, McGill University, University of British Columbia, New York University, New York College of Engineering, Brooklyn Polytechnic Institution, University of North Dakota, and other institutions.

Election Results

There was no opposition to the slate of the nominating committee at the annual business session and the following were elected:—

President-elect, Robert W. Matlack, of George D. Wetherill & Co. (Philadelphia).

Treasurer, A. T. Montanye, of Pratt & Lambert, Inc. (Western New York).

Members of the executive committee, for one year, W. H. Short, of Aulcraft Paints, Ltd. (Toronto); Hiram P. Ball, of the Ball Chemical Company (Pittsburgh); W. V. Jones, of the Kuhn Paint & Varnish Works (Houston); for two years, M. A. Glaser, of Midland Industrial Finishes (Chicago); B. Scobel, of the P. D. George Company (St. Louis); Gale C. Smith, of Berry Brothers, Inc. (Detroit); former president members, E. W. Fasig, of the Lowe Brothers Company (C-D-I-C); R. H. Everett, of the M. J. Merkin Paint Company (New York).

Carlton H. Rose, of the National Lead Company (New York), chosen president-elect last year, assumed the presidency for 1947-8.

By action of the executive committee, the former presidents of the federation were provided with a symbolic key of gold decorated with the seal of the organization embodying the old paint stone and set with a sapphire. The keys were presented personally to twenty who were present at the meeting and were to be mailed to the other three and also to the families of Kenneth J. Howe and P. D. Buckminster, deceased.

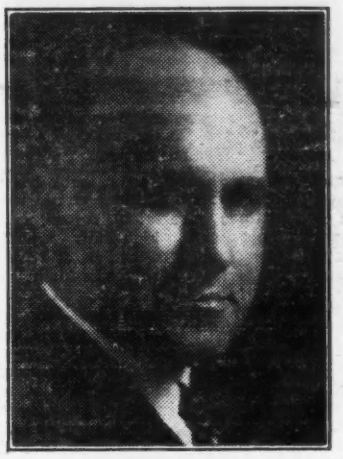
The other men honored, in the order of their terms of office, were E. W. Fasig, G. W. Cooke, W. P. Werner, A. C. McEwen, E. J. Cole, E. J. Probeck, R. H. Everett, J. E. Kortum, E. E. Sparrow, F. C. Atwood, Roy B. Anderson, R. C. Stark, V. C. Bidlack, E. V. Ladd, A. E. Stauderman, R. J. Smith, R. E. Prince, J. F. McMenamin, W. F. Kuster, J. J. Mattiello, E. L. Gott, P. O. Blackmore, and John C. Moore.

A similar key, but set with a pearl, was presented to Clarence W. Clark, treasurer emeritus of the federation.

Carlton H. Rose, of the National Lead Company, Brooklyn, was inducted into office as president at the final business session. V. C. Bidlack, incumbent of the new office of executive secretary, was introduced by President Moore at the same time.

President's Report

In his annual report to the members, the president of the federation, John C. Moore, now head of the scientific section of the



Carlton H. Rose
New President

National Paint, Varnish and Lacquer Association, reported that work is progressing on apportioning areas which should be under the influence of each production club. He said that the primary object was that no new club should be formed near existing clubs without the approval of the latter.

"To illustrate," he said, "suppose the paint manufacturers of Camden, N. J., immediately across the river from Philadelphia should desire to form a production club. Certainly the Philadelphia club should be consulted and its approval received."

Mr. Moore revealed that the paint technical men of the Pacific northwest desired to form a production club on the pattern of the southern club with the paint men of the western part of Canada included.

"While visiting the Montreal club," he said, "it was my pleasure to meet the president of the Canadian Paint, Varnish and Lacquer Association. He was much interested in the formation of a Pacific northwest production club. Jack Lurie of the Monsanto Chemical Company made a trip through that territory telling everyone about the activities of the federation and it is believed that all this ambassador work will ultimately result in the formation of a Pacific northwest club, including the paint men from the state of Washington and Oregon and British Columbia, Canada."

In reporting on the foreign activities of the federation, Mr. Moore announced the completion of the alliance with the Oil and Colour Chemists' Association of England and the paint technical men of France.

"We have asked Tony Skett, of W. R. Grace & Co. to tell his South American friends of the activities of the federation, of our alliance with the paint technical men of France and England and to determine if South American paint men are interested in our cooperative technical endeavor and desire to ally themselves with us."

Mr. Moore concluded by noting that the federation has plenty of money in the bank to operate in its present condition and to underwrite the finances required for its educational endeavors. He introduced all past presidents that were present and said that "we are all grateful for their contribution of time and personal effort."

NPVLA President Speaks

Appreciation of the services of the technical men's organization to the industry as a whole was warmly expressed by Ernest T. Trigg, president of the National Paint, Varnish and Lacquer Association. With the premise, "Things don't just happen," Mr. Trigg said that the federation had had a major part in making the past twenty-five years the most progressive era in the history of paint, varnish, and related coatings. The federation's members had planned with foresight and done with ability much, he said, in contribution to the growth of the industry.

The distribution side of the industry lacks development commensurate with that in technology and production, Mr. Trigg said. With a purpose of building on a firm basis of quality, such development of its markets has been undertaken. The major objectives of the cooperative advertising campaign now being perfected were set forth by Mr. Trigg, and he read some of the themes of that advertising in which emphasis was laid upon the technical ability of the industry to serve industrial, as well as trade, consumers of its products.

Constituent Club Papers

In the sessions devoted to technical papers, which were under the direction of M. C. Slack, chairman of the program committee, nineteen contributions were presented by constituent production clubs. There were also three from European associations with which the federation has technical liaisons.

Those sessions also heard several addresses by technical men in other groups and received the reports of the materials and manufacturing committee and the NPVLA scientific section.

The several prizes annually offered for

John C. Moore
Retiring President

excellence of club papers and their presentation were awarded as follows:—

American Paint Journal awards for practical papers:—First, New York Club, for "A Comparison of Infrared and Convection Oven Baking"; second, C-D-I-C club for "Evaluation of Certain Hydrocarbon Resins."

American Paint Journal awards for papers on research:—First, Chicago club, for "Further Investigation of Aqueous Dispersions of Vinyl Polymers"; second, Cleveland club, for "Weathering Machine Correlation."

Paint Industry Magazine awards for excellence in the presentation of papers:—First, R. J. Blankington, for the Los Angeles club; second, A. E. Stauderman, for the Louisville club; third, Eric Bevan, for the Birmingham club.

Abstracts of the technical papers follow.

Hydrocarbons Resins Evaluated

A study of the suitability of various hydrocarbon (petroleum) resins for use in varnishes was reported by the C-D-I-C club. All but one of the resins (a completely synthesized product) gave dark varnishes which did not dry so well as those of similar oil length made with ester gum or modified maleics or phenolics. The tests included combinations of the hydrocarbon resins with those others.

Alone, the hydrocarbon resins required longer cooking. They have a tendency to reduce the acid number of the varnish. They need more drier. Some of them showed relatively high water resistance, both hot and cold. Combinations with ester gum give softer films with better adhesion and flexibility.

The tests were interpreted to show that, when color is not important, certain hydrocarbon resins can be used as a substitute in part for ester gum and modified maleics or phenolics, sometimes with improvement of the film, if an adequate increase in drier concentrations is made.

Canadian Exposure Tests

A report of progress was presented by the Montreal club in its study, through exposure tests, of optimum pigment volume concentrations in war-emergency, or conservation, vehicles and those of the prewar type. In most practices the PVC for emergency or replacement oils was found to be 33 to 35, compared with a prewar average of 28.

The test panels were painted with formulations of carbonate white lead, zinc oxide, and magnesium silicate, some of them with titanium dioxide also. Raw and kettle-bodied linseed oils were used in the vehicles and mineral spirits was the reducer. Because of delays in getting the panels in place, no definite conclusions could be presented; but apparently the necessity of the increased PVC in replacement vehicles was supported.

Soybean-Tung Oil Blends

Various blends of soybean oil and tung oil were studied as to their value as a varnish vehicle by the Pittsburgh club, in comparison with several types of linseed oil as standards. The proportions of soybean and tung oils were 80:20, 60:40, and 40:60. Both cold mixed and polymerized blends were made of all proportions. The oils were thinned with mineral spirits and naphthenates were added as driers.

The 80:20 blends were found to give films that were too soft, their hardness being zero even after 295 hours. The 40:60 blends gelled when cooked at 575 degrees and 600 degrees; at 550 degrees they had a hardness of 4. The 60:40 blends had a hardness of 2 at 295 hours for all cooking temperatures. Most of the blends had a bodying time less than alkali-refined linseed oil and a lower gas number. Their refractive indexes were a little lower. The cold bodied blends softened on aging.

More work on the subject is contemplated by the club to supplement its conclusions that (1) mixtures of soybean and tung oils can be bodied to the equivalence of bodied linseed oil in drying properties; (2) the two oils may be either prebodied separately or bodied together, but the former procedure leads to softening; (3) the lower bodying temperatures produce the better drying properties; (4) combinations containing 80 percent of soybean oil have relatively poor drying properties.

Ferrous Metal Primers

The third in a series of annual reports by the New England club told of the preparation of exposure panels—flat and angle—for the testing of primers for ferrous metals in atmospheric exposures. The physical appearance and other properties of the panels also were reported. Exposure data on the 600 specimens will be given, perhaps, next year, sufficient time not yet having elapsed.

The panels were prepared in three coating ways—brushing, spraying, and dipping, a special dipping apparatus having been devised. The coatings were applied as primer or top coat alone, one primer and one top, two of each, and two primer and one top. Top coats were gray, black, and aluminum. Prewetting was found useful. Among the pigments used were zinc chromate, red lead, barium-potassium chromate, ferrous-ammonium phosphate, zinc dust, metallic lead, aluminum powder, chromates of barium, calcium, and strontium, iron oxide, zinc oxide, carbonate and sulphate white leads, blue lead, and others in almost sixty groupings. A variety of vehicles was used. Some of the government specification formulas

The New President

Carlton H. Rose was born in Golden, Colo., on September 3, 1902. He completed his education at Hollywood, Calif., high school and became a chemist at the Oakland plant of the National Lead Company. After two years there he went to New York as technical representative for the firm. In 1932 he joined the research laboratory of the company in Brooklyn and now holds the position of head of the paint and pigment research laboratory.

Active in the affairs of production clubs and the federation, Mr. Rose is former president of the New York Paint and Varnish Production Club and of the California Paint Superintendents' Club. He has served on numerous committees of the federation and is a former treasurer.

Mr. Rose is a member of the American Chemical Society; Gallows Birds; member of the board of directors, and secretary of committee D-1 of the American Society for Testing Materials, and is associate editor of "Chemical Abstracts," of ACS.

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were included. The panels were set up supported on porcelain buttons.

Solvent Release and Hardness

The theory that hard resins release solvents faster than soft ones in a lacquer film was disproved in experiments reported by the Los Angeles club. Tests were made with a soft rosin ester, rosin, ester gum, a hard and a soft maleic ester, zinc-hardened gum, coumarone resin, a phenolic ester, and nitrocellulose. The solvents used alone and in various combinations were toluol, benzol, xylol, butanol, isopropanol, high-flash naphtha, mineral spirits, butyl cellosolve, and butyl acetate. The resins were tested plain and plasticized.

Robert W. Matlack
President-Elect

The tests showed that hard resins both pick up solvents and lose them more slowly than soft resins do. It was concluded that the retention of solvent does not alone cause softness. Adsorption was found to play an important part. Plasticizing made some difference in the rate of solvent release, but this was faster with softer resins whether the softness was a property of the composition or was effected by plasticizing.

Dielectric Strength of Films

Because of the role of coatings as insulators of electricity, the New York club's subcommittee 54 undertook to develop a method of testing the dielectric strength of paint and lacquer films. The work on the latter was reported to show that this strength is inversely proportionate to the thickness of the film and that in testing the dielectric strength increases as the size of the electrode decreases, but this trend is reversed somewhat when a needlepoint electrode is used.

The metal used in the test panels has an important bearing on results; rolled, annealed inconel was found best. A newly devised dipping apparatus was described, and a standard procedure was presented.

Work was reported on lacquers pigmented with titanium dioxide (anatase showed a higher strength than rutile), yellow iron oxide, and carbon black, the films having an average thickness of 2 mils. The tests included also unpigmented lacquer films and a number of these also were reported. On similar panels the clear films averaged 2,340 volts per mil of thickness, and the pigmented films, 2,442 volts.

Lacquer Resin Evaluation

In the belief that evaluations of resins for use in lacquers should be generalized comparatively in all sorts of formulations, the Birmingham club set out to develop a scheme that would provide the production man with a true overall picture of resins compared with materials with whose behavior he was familiar. It started with nitrocellulose and a report on the methods now fitted into the general scheme was presented.

Nine formulations were used: three different ratios of resin and nitrocellulose in each of three kinds (clear, white, and black) of lacquer. From this work, it was concluded that study of a properly selected limited number of formulations gives a true picture of the practical value of a resin for lacquer use. The tests covered determination of optimum plasticizer proportion, bending, scratching, hardness, water-spotting, exposure-durability, color-durability, and other properties. The results were correlated and tabulated from data of a number of committees, and cards were prepared from which it is possible to get information on the practical value of a given resin in terms of comparison with practical standards got by a formulator on materials with which he has had working experience.

Finishing Plywood

Work on sealers for plywood, reported by the Detroit club, covered varnishes made with rosin esters and with phenol-formaldehyde resins, pigmented variously to 24 percent or 25 percent of solids with aluminum, lithopone, and talc. Few direct relations were found between laboratory physical tests and the results of exposure; correlation of the two classes of data was very difficult. Physical tests did not indicate durability or the nature of failure. The selection of plywood was found very important, and the need for a standard in that respect was stressed.

Among the conclusions drawn from the tests were (1) linseed oil is better than tung oil in the making of a plywood sealer; (2) an oil length of 19 gallons or more is best; (3) phenolic resins are a bit better than ester gums; (4) alkyd resins are better than others; (5) pigments have no influence for better or for worse but can help to fill grain or speed drying.

Floor-Paint Vehicles

Twenty floor-paint formulations were tested by the Golden Gate Club to evaluate vehicles for such products. The vehicles involved were of these types:—(1) Pentaerythritol drying oil alkyd resin, (2) nonphthalic phenolated alkyd resin, (3) phenol modified alkyd resin, (4) phenolic tung oil-linseed oil, (5) pentaerythritol ester gum, (6) vinylidine chloride copolymer latex, (7) vinylite resin, (8) parlon, (9) pliolite. Some of the formulations contained chlorinated rubber. Several floor paints on the market also were tested.

V. C. Bidlack
Executive Secretary

All the paints were tested on concrete panels in 1,000 hours of accelerated exposure. They were given practical abrasion tests in actual use in traffic on both concrete and wooden bases. Package stability also was tested and found good for all. In the accelerated tests the pentaerythritol-alkyd group showed up best, closely followed by the vinyl copolymers. The pentaerythritol-alkyd group also led in the abrasion test on concrete. The vinyl copolymers were only fair; the others were not satisfactory.

In the accelerated testing and the abrasion test on concrete there was no cracking, checking, or peeling. But there was considerable cracking and peeling in the abrasion test on wood; the thought that this was attributable to the wood was expressed. In this test the pentaerythritol-alkyd group was the only one to make a good showing. The conclusion of the experimenters was that better floor paints could be made.

Heat-Resisting Coatings

A method for testing coatings designed to resist high heats was presented by the Houston club, which had devised a "miniature smokestack" apparatus for the work. For the determination of temperatures at different points on the pipe, a contact pyrometer was preferred. For smaller plants the tempilstiks and tempilac were tried; while satisfactory for general field testing, this type of indicator was not considered satisfactory in tests of the sort reported because of the difficulty of getting reproducible results.

No attempt was made to develop a heat-resistant coating, but the view was expressed that existing formulations fell short of perfection. In the testing, the best showings were made by paints with an organo-silicon oxide polymer vehicle, such as Dow-Corning 801, and pigmented with any of the commonly used metallic pigments or zinc oxide, the pigment volume being as high as practicable. Paints made with hydrolized ethyl silicate or tetraethyl orthosilicate, pigmented with aluminum and mica, showed good heat resistance, but such formulations are hard to make and they do not weather well. Ability to withstand erosion is the property most difficult to get in a heat-resistant paint.

Fire-Retardency Tests

Continued work was reported by the New York club's subcommittee 45 on its cabinet test method for fire-retardant paints for wood, the objective being the determination

of reproducibility of test results. The review of this work covered four different paints, these having been exposed on metal panels to the flame of a specific quantity of absolute alcohol burning in the cup in the test cabinet. Details of location of panel, flame, and measurements were given.

Reproducible data are obtained on discoloration, blistering, smoke, flaming of coating,

A. T. Montanye
Reelected Treasurer

area and depth of char, and other phenomena. These data are got for both the front and the back of the test panel. The rate of combustion of the alcohol also is noted. For paints of lesser retardence, smaller quantities of alcohol are burned.

The data were found to have values as follows. Blistering on the front has none; on the back it is significantly indicative of the insulation value of the paint. Discoloration on the front is of no consequence; on the back it lacks precision for low-resistant paints. Smoke varies according to the composition of the paint. Flaming of the coating has good value as an indicator. Blackening and char differentiate good and poor retardence but are not indicatively close enough with reference to paints of low retardence. Blackening of the back is of importance. The depth of char does not indicate as much as the area of char. Loss of weight has high informative value.

Methods of measuring the phenomena for reproducible data were given and the general reproducibility was declared to be statistically satisfactory, the primary importance attaching to blistering on the back of the panel, flaming of the paint, the area of char, and loss of weight.

Vinyl Polymer Dispersions

Continuing work reported last year, the Chicago club presented data on compounding technic, pigmentation, stability, flow and other physical properties, and chemical properties for aqueous dispersions of vinyl polymers. There was supplementary information on geons, acrysols, and sarans, and new information on latex 512. Practical applications of such dispersions as coatings were reported, and the conclusion was expressed that vinyl latexes offered a desirable new method of paint formulation in which grinding is unnecessary and inflammable solvents are eliminated.

Latex compounds were said to be more sensitive than paints of the solution type, hence their stability must be carefully guarded. They were described as decidedly thixotropic, hence a method of improving their flow and leveling must be developed. Vinyl polymers were said to have poor adhesion to metals but to adhere well to porous surfaces. The air-drying latexes coalesce sufficiently to form continuous films of high tensile strength, which were described as quite resistant to oils, chemicals, and most solvents with the exception of ketones. Vinyl films have good exterior durability, but they collect dirt excessively.

Current prices of vinyl dispersions were said to be too high in many instances to permit their use within the area of their application as paint vehicles. Their widest use is in the coating of textile fabrics and paper. It was opined that their most logical applications in the paint field were in interior wall finishes, masonry paints, and special products wherein the resistance of their films to solvents, chemicals, and so on would be a desirable advantage. Formulation of both flat and gloss water-thinned paints was declared to be a definite possibility.

Weathering Comparisons

The Cleveland club advanced four conclusions concerning the proper operation of a machine to duplicate Florida test fence exposure. Very little has been stated about the machine versus Florida because of the necessity for adjustment of water supply, water exposure duration, maximum temperature, and duration of nearly maximum temperature to achieve uniform machine operations in various parts of the country, the report declared.

The inference, it was stated, is that when these adjustments have been made, a new cooperative exposure, with the majority of machines operating similarly, can proceed with the discussion of positive and negative correlation with Florida.

Contrasting the Cleveland club exposure with the present national exposure made clear why previous papers on the Cleveland area exposure claimed machine correlation with Florida, while general literature on the subject contains a considerable amount of contradictory information. It was explained that the water supply and machine operating procedure can cause certain areas to be satisfied with machine results while other areas report consistent lack of correlation.

The Cleveland committee felt that these recommendations and technic of following exposure results will give directions to the attempt to have both commercial weathering machines produce similar results in any part of the country or at least to allow operators to understand the reasons for poor machine results:—

1. Some treatment of the water supply will be necessary to allow machines operating in various parts of the country to duplicate panel appearance results.

2. Longer water exposure is necessary in weathering machines to accomplish the thorough soaking which causes rusting of the porous paint film in Florida.

3. The A.S.T.M. designation D-822-46T, specifying a temperature of 145° F. on a black panel, is valid and very essential.

4. The maximum temperature or slightly lower must be maintained for at least one-half of the total radiation hours.

Filling Machines Probe

The New England club presented the results of a study on various filling machines offered to the industry to determine the "break-even" point in hand-filling operations at which it is profitable for a manufacturer to install mechanical filling machines. The conclusions were based on the answers to a questionnaire sent to members of the club and to paint manufacturers as far as the West coast and to several manufacturers of filling machines.

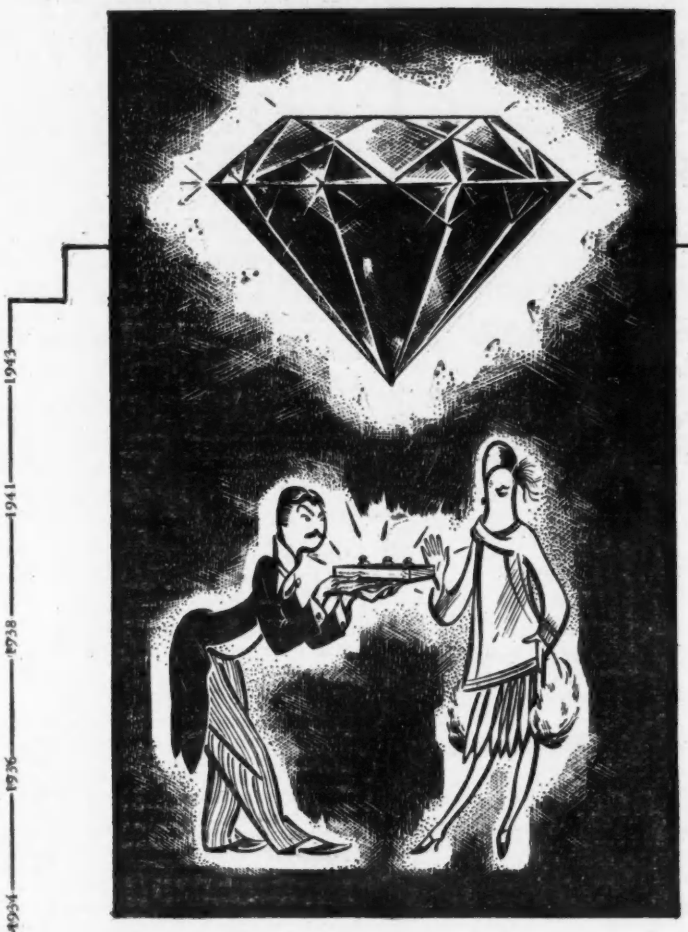
The paper pointed out that wide variations exist because of the difference of viscosity of materials filled in the various plants; the accuracy at which the rates have been set up in each company; wage incentive plans which have the result of speeding up the operation beyond those values found in plants working on a straight time basis, and the variations of batch sizes which exist in individual plants.

The investigation showed that there is a definite method of determining a "break-even" point regardless of the variations now known to exist in every plant. It was expressed in algebraic terms as follows:—

$$G=\frac{100[(Sh-Sm)+(Ch-Cm)]}{Rm-Rh}$$

in which, figuring the time in minutes, G equals breakeven gallonage; Sh equals set up for hand filling; Sm equals set up for machine filling; Ch equals clean up for handfilling; Cm equals clean up for machine filling; Rm equals filling rate in minutes per 100 gallons, machine filling; and Rh equals filling rate in minutes per 100 gallons, hand filling.

The paper explained that the values for a specific machine will vary with these figures and any calculations for "break-even" point would have to be based upon a handfilling operation in which the paint manufacturer had determined that a point



HIGHLIGHTS of PAINT PROGRESS

No. 10 of a series

1925

Jewels by science outshine diamonds

SCIENCE scored a dazzling triumph midway through the golden Twenties when she created two new types of jewels which outsparkled even diamonds. Unlike any known precious stones in size and composition, these consisted of microscopic crystals of zinc sulfide and titanium dioxide. The paint industry quickly adopted them as white pigments of highest hiding power.

Through long and costly research, science likewise developed economical ways to make these crystals in large quantities with uniform high purity and great power to gather and reflect light. Superior in luster to an equal weight of diamonds, these synthetic jewels throw off such a continuous stream of sparkles that they appear brilliantly white and effectively hide the underlying surface—even when incorporated into paint vehicles.

In the same year, science also successfully modified these prime pigments with selected white extenders. The type based on zinc sulfide was known as high strength lithopone; the other was titanium-calcium pigment. All four of these types of pigments soon found important applications in paints, and today they provide a major portion of all the white hiding units required by the paint industry.

1848-1948

Partners in Paint Progress

In 1925 the scientists of The New Jersey Zinc Company developed the first zinc sulfide and high strength lithopone (Cryptone). These products have contributed many important properties to both interior and exterior ready-mixed paints.

The Paint Industry — New Jersey Zinc

THE NEW JERSEY ZINC COMPANY
Established 1848
160 Front Street, New York 7, N. Y.

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HORN, JEFFERYS & CO.
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NITROCELLULOSE SOLUTIONS
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ADHESIVES
COATED FABRICS
ARTIFICIAL LEATHERS
LEATHER COATINGS

These JEFFILAC solutions are made from FILAC, our flaked, washed film scrap, and/or virgin nitrocellulose.

The maximum nitrocellulose content under present formulation is 20%, with other grades at 15%. The solvent structure is in proper proportion and balance, so these JEFFILAC solutions are ready to thin out and to incorporate gums, resins or plasticizers to give further adhesion or hardness or flexibility.

Every JEFFILAC solution will readily flow, and none are so heavy that effort is required to empty drum.

JEFFILAC solutions are available with nitrocellulose viscosities from 5-6 second down to 1/4 second.

We offer to makers of lacquers and makers of protective coatings JEFFILAC Nitrocellulose Solutions which are not merely dissolved nitrocellulose but are balanced solutions with alcohols, ketones, esters, and diluents in proper proportion. The boiling points are coordinated, so that thinning, blending and further formulations can be conducted with ease and minimum of cost and effort. ALL JEFFILAC SOLUTIONS ARE POWER FILTERED.

WE OFFER A DEPENDABLE SOURCE OF SUPPLY AND SOLICIT YOUR ORDERS.

HORN, JEFFERYS & CO.
Agents - Manufacturing Chemists - Exporters
CABLE ADDRESS: "GALLEON"
20 WEST BURBANK BOULEVARD
BURBANK, CALIFORNIA

Nuestra organización es seria, solvente y efectiva, y sus pedidos recibirán nuestra inmediata consideración.

of maximum efficiency for a minimum number of men had been reached.

Baking Methods Study

An investigation of the comparison of infrared and convection oven baking was presented by subcommittee 59 of the New York club. Results of its work, involving some 350 duplicate tests made on baked finishes differing only in the source of heat energy employed in baking, indicated that in the case of the six type formulations tested, infrared and convection oven baking produced equivalent film properties when all variables except the source of heat energy were held constant.

It was reported that under these controlled conditions no appreciable photochemical or catalytic effect differing from that obtained in the convection oven was observed as a result of the use of infrared as a source of heat energy.

The paper declared that a practical interpretation of this work indicates that in the case of the heat reactive, alkyd and oleoresinous type formulations tested, equivalent cures may be obtained with either convection or infrared heating provided equivalent time-film temperature curves are followed during the baking operation.

Color Change Tolerance

The importance of continued customer satisfaction with a selected color should be a matter of considerable concern to manufacturers of protective coatings, according to a study of color change tolerance made by the Louisville club.

In regard to hue, the paper stated that "the tendency to favor bluer colors is so consistent with either sex, we wonder if it is not universal, the average being two to one." In color value, men like darker colors while women prefer lighter shades in the proportion of two to one in the red and purple regions of the spectrum, according to the report. It added that both male and female tendency is for stronger or more saturated colors.

The paper reported that, in general, the results show that two-thirds of the people will tolerate a color change that is lighter, stronger and bluer.

Laboratory Test Methods

Subcommittee 13 of the Philadelphia club presented a paper on methods of laboratory test. The purpose of the investigation was to establish a standard set of test methods for the laboratory, both customer service and research.

The methods were concerned with weight per gallon; consistency; viscosity of transparent liquids; fineness of grind; hiding power; drying; gloss; flexibility; adhesion and toughness; application properties; color transparent liquids; solids; acid number; film thickness; hardness; salt spray; resistance test; exposure, and laboratory notebook records.

Rosin as a Paint Material

The war-emergency use of rosin in France and the possibilities of its application as a paint material were covered in a paper contributed by three chemists of the Anonymous Society Vitex, Bordeaux. Modified rosins, rosin oil, and resinates were utilized as replacements of customary drying oils, whose shortage in France was acute. Rosin oil was not satisfactory because it dries only on the surface of the film and it yellows. If the phenolic constituents are removed, it is better. Modified by continuous distillation and catylization, it serves fairly well in printing ink and with rosin is useful in interior paints. Its biggest application was and is in the making of putty with calcium carbonate.

Linseed oil is now being conserved in France through the use of rosin oil in the sizing of plaster surfaces. The addition of calcium resinate or a metallic resinate gives a better product. Acid-modified rosins are the chief ester gums, glycerin being scarce. The outlook, as the French chemists see it, is best with reference to metallic resinates and dibasic acid derivatives. The combination of these with synthetics have been found better than copals. Applications of hydrogenated abietic compounds are considered promising.

Rheological Studies

Two papers were contributed by members of the Oil and Colour Chemists Association, of England, on rheological properties, thixotropy, and wetting. One dealt with the rheological properties of carbon black dispersions in mineral oil, covering mainly residual viscosity and the coefficients of thixotropy and the effects of milling thereon.

In 6-percent dispersions, three millings gave constant thixotropy. There was an increase with the concentration in direct ratio with the square of the percentage. The addition of oleic acid and similar wetters was studied and various factors were found to influence their effects. Time of grinding and manner of mixing gave diametrically opposite effects on thixotropy as they were varied. The effects of adsorption were held to be important in respect of selective wetting and tendencies toward flocculation. Further work is under way.

The second paper covered some angles of the same subject but ran the consideration into the heights of physical chemistry and the influences of the structure of carbon black particles. The theory was advanced that carbon black is but partly carbon, the particles being made up of concentric—onionlike—lamina of oxides and other compounds. The experiments reported showed that thixotropy of carbon black dispersions was increased by the addition of 0.1 percent of a wetting agent, diminished when the proportion got up to 0.5 percent, and was first decreased then increased when 1 percent was added. Time was declared to be very important in the phenomenon of wetting.

Other Technical Features

Technical contributions to the meeting from sources other than constituent clubs and other related organizations covered several aspects of research in general, of testing methods and procedure, and of some specialized studies. Mainly they were the four which are given in abstract below.

Industrial Research Science

Presenting industrial research as a new science, C. F. Rassweiler, vice-president for research and development, of the Johns-Manville Corporation, emphasized the importance in science of applying knowledge. The practical application of knowledge was, in his opinion, better for human welfare than is the practice of pure science. He considered such practical procedure, not mere systematic empiricism, but a new science. In its relating of composition and performance of industrial materials it is not secondary to fundamental or theoretical science as he sees them.

The science of industrial research in Mr. Rassweiler's view is a combination of chemistry and physics, borrowing importantly from mathematics. It not only plots and explores but also develops technics and correlates the data of laboratory, factory, and field. It coordinates and applies to the needs of commerce and the community the skills and knowledge which basic sciences provide. Because it replaces rules of thumb with systematic approaches it is a science in the full sense of the term. Scientists must learn why; they must recognize the definite value of facts and refuse to compromise or average their data.

There is a big need for real, convenient literature in industrial research, Mr. Rassweiler said, a need to provide more facts in some places and to screen those available in others. What has been learned must be known and appreciated; wishful thinking must be avoided; opinions must be changed as new factual knowledge dictates. In comparing the roles of scientist and simple experimenter, he urged that the objective be that which will be generally satisfactory not what may satisfy all the needs of a one day or place.

Fungicidal Evaluations

Indefiniteness of test methods for the performance of fungicidal agents in paints has resulted in a wide diversity of opinion as to their effectiveness in the prevention of mildew; so the army began a study of means of evaluating paints containing fungicides. The progress of this work was reviewed by R. E. Vicklund, assistant to the chief of the materials branch in the research and development laboratories at the engineer center at Fort Belvoir.

Panel tests of contacts with cultures of several species of *aspergillus* were reported. The panels were painted over about one-half the area so as to get a line of expectable preventive action. It was found that, with one coat of paint the results varied widely. This was attributed in good part to the susceptibility of the wood of the panel. The application of two or three coats reduced the variables, but necessitated an excessively long time of incubation.

Dropping the fungicidal paint on an inoculated medium indicated only that some toxic effect had been dissipated from the area of contact. This might be a disadvantage in the opinion of the experimenters. Painting wood panels in a humid atmosphere had some usefulness. Exposures were made in a room simulating tropical atmospheric conditions. Tests in use have been made at Panama.

Another method comprised the laying of a film of paint on a petri dish, covering one-half of it with a culture, and incubating. But, mildew will not form on glass or metal because of the lack of moisture. No entirely satisfactory method has been developed for the selection of a substrate. Variations in wood are a problem. Sucrose mediums were not satisfactory. Plaster panels were found promising. The highest expectations came from the use of filter

—*Continued on page 83*

National Paint, Varnish and Lacquer Association

Fifty-Ninth Annual Meeting

Atlantic City, N. J., November 11 to 14

Ernest T. Trigg relinquished the presidency of the National Paint, Varnish and Lacquer Association at the fifty-ninth annual convention held in the Ambassador Hotel, Atlantic City, on November 11 to 14, after fourteen years as full-time chief executive officer and forty years of activity in the organization and its predecessor groups, in the course of which time he has been a dominant factor in the industry's progress toward the $1,000,000,000 annual status which it will approximate this year.

At a meeting of the executive committee prior to the convention, Mr. Trigg was elected chairman of that body. He is succeeded as president by Joseph F. Battley, who resigned in May as a brigadier general

Ernest T. Trigg
Retiring President

in the United States Army to become executive assistant to Mr. Trigg.

While giving up his duties of active management Mr. Trigg will, as chairman of the executive committee, have the opportunity to participate in the direction of the $1,500,000 national cooperative advertising campaign, a project which has been of paramount interest to him in the past few years and the successful financing of which he announced at the conclusion of his farewell address. With the funds pledged, the executive committee will now determine the time of starting and details of operation of the plan.

Current problems of industry as a whole as well as specific matters relating to the paint industry, such as manufacturing, raw material supplies, research, trade and industrial selling, were dealt with at the four-day session by industry leaders and distinguished guest speakers. One full day was devoted to dramatized presentations of "Paint Power—and How to Sell It," the new industry promotional and educational book, the Clean Up and Paint Up Campaign and merchandising through color, all of which will be developed intensively on a national scale to become an integral part of the $1,500,000 cooperative advertising campaign, which calls for the expenditure of $500,000 a year for a period of three years.

Trigg's Farewell Address

Mr. Trigg's annual—and farewell—address came at the end of the first morning's session after the preliminary report of the nominating committee had revealed his intention to retire. It was a talk of reminiscence, a record of industry growth and achievement and a prophecy of still greater expansion in the service of the public and of industry if all opportunities are realized.

Mr. Trigg recalled the gathering of the first group of industry leaders in Saratoga Springs, N. Y., in 1888, when the first national association was formed. Those were the days, he said, when there were no income taxes, wages were short and hours long, "the sky was the limit" on advertising claims, commercial bribery and ruthless exchange of paint sticks were daily procedures, ready-mixed paints were relatively new and of doubtful reputation, and the "best paint maker was the 'one who could put the most water into paint without the likelihood of it freezing'."

Then Mr. Trigg traced the industry's growth, from 522 establishments in 1889 to 1,400 now; from 8,189 factory workers then to 40,000 now; from an output of $54,234,000 in finished products to the anticipated $1,000,000,000 year in 1947.

Varnish making as we know it today was far in the future, he said; lacquer was a minor product; synthetic resins and the oils of today were unheard of; and the automobiles which now call for such vast quantities of nitrocellulose lacquer and synthetic resin enamels were then a curiosity; there were none of the radios and refrigerators and other household accessories then to call for the specialized product finishes of current production.

Forming Industry Groups

In addition to this comment, Mr. Trigg recounted the formation of various trade associations of the industry which in 1933 were merged into the present association; and also told of the establishment of the trademark bureau in 1900, the educational committee in 1904, the scientific section in 1907, the Clean Up and Paint Up campaign in 1912, the Save the Surface campaign in 1919, the code of ethics in 1923, the unfair competition bureau and the "Cincinnati Agreement"—"all of these have constituted working models for the conduct of honest business."

After paying tribute to the industry's pioneers and those who have brought it to its present pre-eminent position, Mr. Trigg said:

"We will continue to recognize that our job is one of 'public service,' that we have the responsibility to furnish the products with which to protect, preserve, make sanitary and at the same time decorate and beautify the great taxable wealth of America, namely, its construction and products of all kinds. This job we will continue to do with character and integrity, dealing always fairly and honestly with the public.

"In addition to more completely 'painting America' through improving our merchandising methods, I want to mention two other specific things. First, we must continue to improve the quality of our products just as rapidly as new raw materials and advanced technology make that possible. Second, we must have the character and the courage to resist the temptation to accept business on any basis which makes it necessary to sacrifice quality with the risk that its results in use will fall short of what the buyer has a right to expect. We must not trade our future welfare for temporary expediency.

Need for Education

"You individually, and through your national association, are planning constructively. During the sessions of this convention you will have brought home to you vividly some of the educational activities now under way which will vitalize our merchandising efforts, improve quality wherever possible and further strengthen the confidence of the public in us and in our service. There is great need for education of ourselves, the members of our own organizations, those who distribute and apply our products and above everything, the public. Our current and future work in these fields is well planned and being thoroughly organized. Some of the highlights are:—

"(1) Training salesmen, retail clerks, and painters through 'Paint Power,' the greatest book on training ever published.

"(2) Establishing paint courses in chemical departments of some large universities and colleges to insure a greater future supply of technical men for our laboratories and for field work.

"(3) Articles in daily newspapers, monthly magazines and trade papers, talking human interest things to the public generally.

Roy B. Anderson
NPVLA Vice-President

"(4) The reorganized and revitalized Clean-Up — Paint-Up — Fix-Up department to make this great civic activity more useful throughout more communities in the United States.

"Then, we must no longer continue to 'hide our light under a bushel'. We must let the public know what this great industry is doing for them. We must tell them of our importance to them—tell them about the technical development and progress we have made and will continue to make. We must make the public more 'paint-minded' and more 'product finishes-minded'. The public should be educated to consider the paint or the finish on what it buys as important as the object which it protects and beautifies.

Product Finishes Growth

"Our industry, old, long-established and accepted, no longer challenges the imagination or inspires public enthusiasm and applause, especially in view of the many new developments such as plastics, synthetic rubber, electronics, atomic energy, etc. Yet our products are vitally essential on buildings, structures and literally thousands of products turned out by the industries of this country. What we in the industry know as trade sales are pretty well understood albeit they are not used to the extent they should be. But that great other part of our industry; namely, product finishes, are as yet unknown to and unappreciated by the public generally. Product finishes have come forward in the last quarter of a century in an amazing way and the field of usefulness for that branch of the industry is perhaps beyond the imagination of most of us.

"But how many people, not in the industry, even know what the term 'product finishes' means? They do not even know that they are surrounded with evidences of these finishes from the time they get up in the morning until they go to bed at night. They do not know that they are adding to our comfort, our convenience, and our safety literally twenty-four hours a day through their use 'behind the scenes'. For example, in power plants where miles of electric wires must be insulated with materials from our factories. They do not give any thought to the fact that the first to feel the impact of nature's attrition is the substance in

NPVLA Officers for 1947-48

President (elected for one-year term):—Joseph F. Battley, Washington, D. C.

Vice-president:—Roy B. Anderson, secretary-treasurer of Brooklyn Varnish Manufacturing Company, Brooklyn, N. Y.

Treasurer (reelected):—E. A. Foy, Jr., Foy Paint Company, Cincinnati, Ohio.

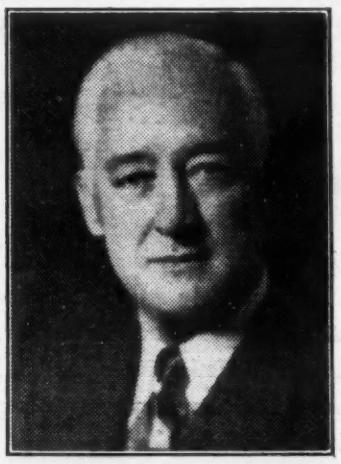
Vice-president of wholesale division (reelected):—T. A. Flynn, Butler-Flynn Paint Company, Washington, D. C.

Executive committee chairman:—Ernest T. Trigg, Washington, D. C.

Regional vice-presidents:—New England, Franklin J. Lane, president of Boston Varnish Company, Boston, Mass.; Eastern, Walter G. Sibley, Jr., Felton, Sibley & Co., Philadelphia; Central, J. Harry Lawson, Enterprise Paint Manufacturing Company, Chicago; Southern, N. M. Kelley, Southern Varnish Corporation, Roanoke, Va.; Southwestern, A. J. Knapp, Napko Paint & Varnish Works, Houston, Tex., and Western, W. F. Bennett, Bennett's, Salt Lake City, Utah.

Executive committee (three-year term):—Lathrop G. Backstrom, president of Cook Paint & Varnish Company, Kansas City, Mo.; R. W. Blair, Jr., president of Jones-Blair Paint & Varnish Company, Dallas, Tex.; O. J. S. de Brun, president of Egyptian Lacquer Manufacturing Company, New York; T. L. Daniels, executive vice-president of Archer-Daniels-Midland Company, Minneapolis, Minn.; E. D. Griffin, vice-president of Pittsburgh Plate Glass Company, Pittsburgh, and M. J. Merkin, president of M. J. Merkin Paint Company, New York.

The New President



Gen. Battley was born in Norfolk, Va., on December 19, 1893. He entered the Army as a private in 1917, was commissioned a second lieutenant in the Engineers Reserve in May, 1918, and was commissioned a first lieutenant in the Chemical Warfare Service of the Regular Army in July, 1920.

He was promoted to captain on November 1, 1933; to major on May 27, 1940; to lieutenant-colonel (temporary) on September 15, 1941; to colonel (temporary) on February 1, 1942; to lieutenant-colonel (permanent) on September 30, 1942; to brigadier-general (temporary) on February 22, 1944.

Most of his service was in the chemical warfare end until 1932 when he entered the Army Industrial College. Upon graduation he was assigned to National Recovery Administration as administrator of the chemical division. From 1935 until 1939 he served with the Works Progress Administration, the Assistant Secretary of War, and performed various duties at Edgewood Arsenal, Md.

From 1939 until 1942, when he was assigned to the Army Service Forces, he did duty with the Assistant Secretary of War, the Army-Navy Munitions Board, and the Selective Service Committee. In January, 1944, Gen. Battley became deputy chief of staff for service commands and the following year was assigned to duty as assistant in the office of the commanding general of the Army service forces in charge of public relations.

He was chief of information in the office of the chief of staff of the War Department from April, 1946, to the time of his voluntary retirement from the Army to join the paint association.

Gen. Battley became known to the paint industry when he administered the paint code, as well as the codes for rubber, soap, paper and chemicals generally, under the NRA. He holds the Distinguished Service Medal, the Legion of Merit, and the Army Commendation Medal, with two clusters.

which a product is finished . . . the coating on a bridge or power tower, the glaze on an automobile body, the chemically-treated wrapping of an underground cable—yes, even the scarcely measurably lining inside a tin can.

"One need travel no farther than his eye to discover the indispensable role the product finish industry has played in our transportation and communications systems, its tremendous value in medicine, the comfort and beauty it has brought to the appliances of the kitchen, the sanitation and safety it imparts to the things we eat. Definitely, industry has no more important genius than the scientist who designs the finish on the products the public uses.

"I have previously made the statement, which I repeat, that if all product finishes were taken off the market and were no longer available, practically every manufacturing unit in the country would have to discontinue production and millions of men would be out of employment. It isn't conceivable that people would buy automobiles in the raw steel or an unfinished refrigerator or any other one of the thousands of products which require product finishes to make them marketable.

"Yes, we must glorify and glamorize this industry of ours and do it directly to the public over the heads of all intermediate factors. We need to do this in an intelligent, consistent and sustained way to bring about a permanent appreciation of the products of this industry and thereby insure more regular and frequent use of our materials and prevent possible inroads of other industries into the fields which legitimately belong to us so long, but only so long as our products continue to serve mankind better than others. That is a challenge which we accept. No markets are forever assured. They must be maintained. They must be expanded.

Advertising Campaign

"It is to accomplish this that the great national cooperative advertising campaign has been set up. I am glad to announce that its financing is now completed. The two conditions that a minimum of $500,000 per year for three years must be subscribed and that 75 percent numerically of the total of Class A members as of October, 1944, must be suscribers, have been met and that part of the job is done.

"It has taken time to accomplish this. The financing campaign was launched during the latter period of the war and when OPA was still in effect and many potential participants deferred action under the regimented price situation which then existed. There also was then and still is a shortage of some important raw materials and this fact, plus an unusual demand for our finished products, has sometimes made it difficult to understand why the campaign was being planned when the orders then on hand could not be filled.

"It is apparent, however, that the current requirement and supply situation will not continue as it is indefinitely and there inevitably is ahead of us a period when we will have to once more sell and sell hard to keep our place among other American industries. With the financing completed, careful plans can now be made to launch this campaign when the time arrives to do so.

"The actual advertising will not start until the executive committee of the national association determines that the time is opportune. This may come sooner than we expect.

Personal Remarks

"And now I will conclude with a few remarks from a personal standpoint.

"On Friday, at the closing session of this annual meeting of the association, I shall relinquish my active management of its affairs. In doing so, I have mingled feelings of regret and satisfaction—regret that the time has come to do this, but I know that it is right that it should be so. In fact,

E. A. Foy, Jr.
Reelected Treasurer

it was about three years ago that I advised the executive committee of my desire to relinquish my routine duties at such time as might be most appropriate but only after the war was over and after proper arrangements for succession to the office of President could be made. My feeling of satisfaction comes from more than forty years of service in our association work during which there has been no time when I was not actively concerned with some phase of our collective activities. The last fourteen years of that period I have served as your full-time president. During my incumbency of this office, we have been through the busy NRA days, which most of you remember, and then, of course, from 1941 to 1945 we went through the difficult second World War period with all of its uncertainties and vicissitudes. There were many other problems, but these two stand out.

"Our industry came through the war most creditably and honorably. We did our full part in every respect and the record will ever stand to our credit. I have satisfaction, too, in the fact that our industry through its own efforts has elevated itself in the public's esteem so that none other rates higher in its confidence and acceptance.

"Since our reorganization in 1933, our membership has increased each year over the preceding one without exception. In 1947 we again increased our net membership by forty-nine. Our finances are in good condition as shown by the treasurer's report you have just heard. During this period, the association's activities have been put on a strictly business basis and several important activities have been added.

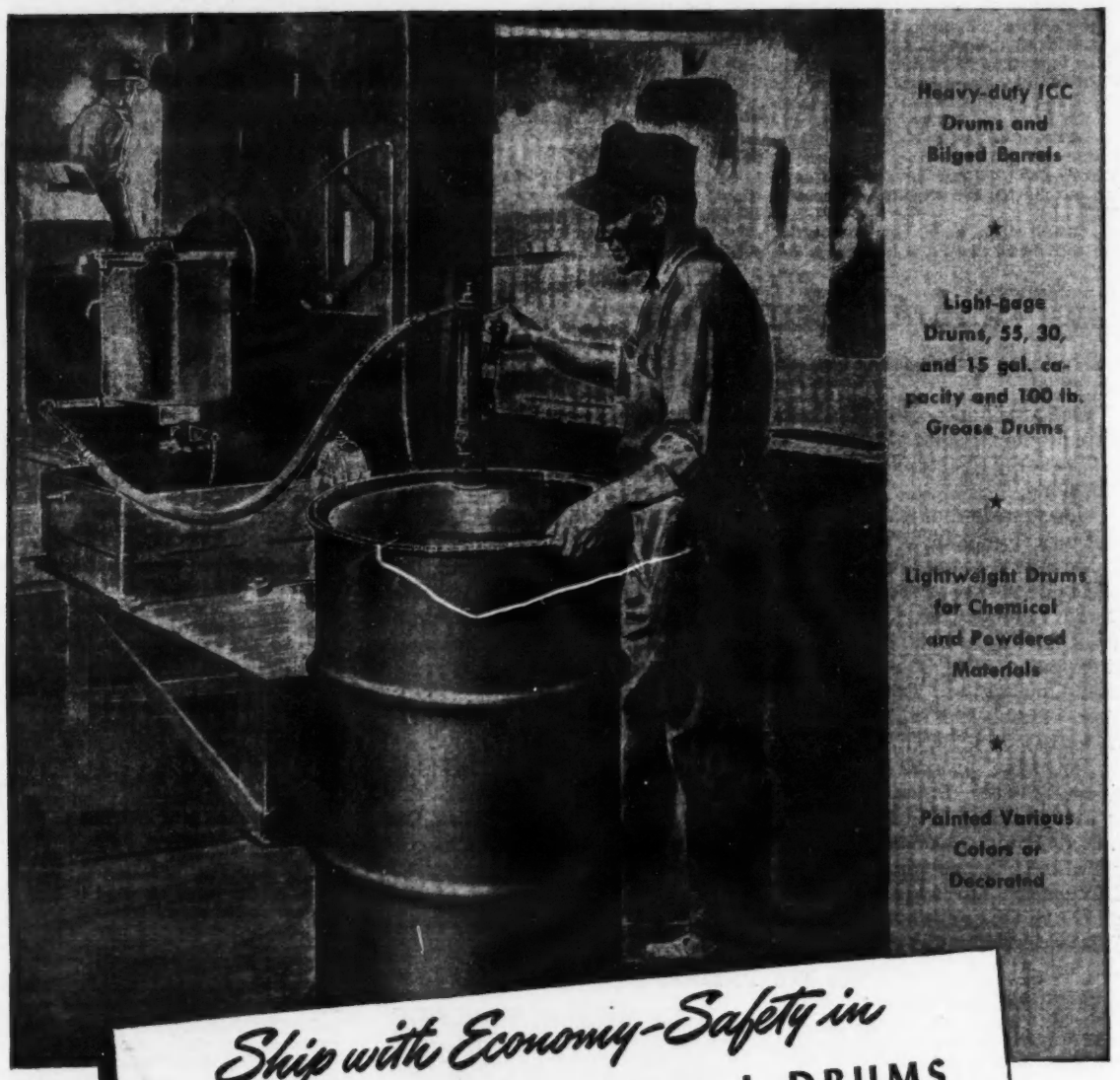
"We are now housed in our own outstanding headquarters building in Washington—quarters in keeping with a great industry. We own the property clear of debt and it is a fitting, permanent home for us for at least a long time to come. But best of all we have knit ourselves together through acquaintance, through cooperative work, and because of developing genuine confidence one with the other into a compact organization with one outstanding objective, namely, to serve the industry and all of its members, be they small, medium or large, faithfully, constructively and with fidelity and high character.

Staff Functions

"Our staff is well-trained, efficient and loyal. All of the heads of the different departments are in reality specialists in their particular work, but through the esprit de corps which we have developed, they are all, generally speaking, familiar with the various other activities and ready and able to fill in wherever and whenever necessary.

"Our newest member is John C. Moore, now director of the scientific section, which position he assumed on October 1. Mr. Moore's education, experience and inclinations make him especially fitted to assume this responsibility. For many years he has been active in the work of the Federation of Paint and Varnish Production Clubs and for the past year has been its president. This has given him a wide and valuable acquaintanceship in the industry and we are confident that he will carry this side of our activities forward in a constructive and productive way.

"Earlier in the year Gen. Battley, whom most of you have already met and the rest of you will, joined our organization as executive assistant to the president, and as you know from the preliminary report of the nominating committee he has been placed in nomination for election to the presidency of our association. He comes to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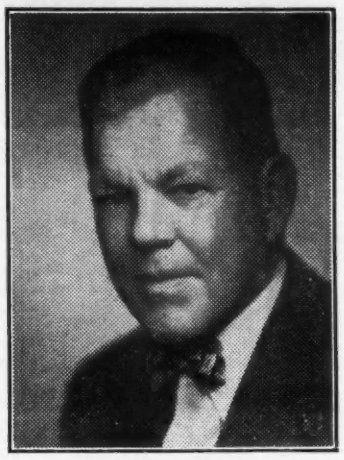
us with a well rounded experience which particularly fits him to assume this position, to which I hope and feel confident you will elect him at our closing session. My acquaintance with him, which rapidly grew to friendship, began in the NRA days fourteen years ago when he was the Administrator of our Industry Code. In the discharge of those duties he quickly made friends of those with whom he came in contact. Joe Battley brings us not only a broad business and executive experience, but a personality that makes and keeps friends.

"He is loyal. He is a man of complete reliability, thoroughly responsible and dependable and of the highest business and personal character. I know of no one to whom I would more readily hand over the leadership of this great organization with greater confidence and faith than him. He will deal fairly, impartially and intelligently with all of our problems and will do it in a thoroughly human manner under all circumstances. He knows, and I want you to know, that my cooperation and advice



F. J. Lane
New England Vice-President

will always be available to him whenever he needs it. I am confident you will give him, as you have me, your wholehearted support and cooperation in carrying on this great responsibility.

Looking Ahead

"Looking ahead, we will keep this industry on its present high plane and bring it to greater heights of usefulness and service in the years to come. We will keep it so that each manufacturer in the industry when it comes time for him to entrust it to another generation will know that he is handing over a heritage worthy of his efforts and one which his successors will be proud to possess, and into the tapestry of which they will continue to weave golden threads through the power of paint.

"I love this industry where I have so many wonderful friends. Your friendship and confidence and your support and cooperation, plus your understanding and tolerance have made my service to you the greatest business pleasure of my life. If my efforts have contributed anything to the welfare and progress of this industry, I am fully repaid. I have complete confidence in the future of the paint, varnish and lacquer industry."

Research Potentials

Supplementing Mr. Trigg's recital of industry progress and treating specifically of chemical developments during the recent war years, Dr. Edward R. Weidlein, director of the Mellon Institute of Industrial Research, Pittsburgh, made a plea for the greatest possible expansion of private industrial research, unfettered by management directives or controls, so that the scientists may achieve all that now seems possible in the field of synthetic production. The title of his address was "Chemistry in Action."

Declaring bluntly that scientific research had not been oversold to American industry and re-emphasizing its vast potentials, Dr. Weidlein traced its development since 1920, in which year there were but a few hundred established laboratories and research budgets of infinitesimal proportions. In 1939, he said, there were 2,900 laboratories and budgets grossing $400,000,000—the figure is currently about $1,000,000,000—and to this growth between the end of World War I and the years immediately prior to World War II he attributed the success of the nation's tremendous war production.

Preparedness through scientific research, he said, had come along progressively and because of this the outbreak of hostilities found industry in the position of swinging into action, with frequently miraculous results. He cited, for example, the development of synthetic ammonia plants, the tremendous output of toluol, one plant's capacity alone having jumped from 35,000,000 gallons in 1940 to 60,000,000 gallons at the war's end; the developments in nylon; in synthetic rubber, and, of equal value, the production of the sulfa drugs, quinine substitutes, and penicillin. All of these were attributable to the achievements of private industrial research, and in making this point he paid marked tribute to the efficiency of chemical engineers whose work in planning and setting up plants, often without pilot tests, he considered phenomenal.

Looking into the future, Dr. Weidlein declared it was impossible to foresee the eventual developments of the silicone compounds, which had been invaluable in perfection of radar and in the insulation of motors. Likewise, vinylite coatings, spraying compounds, in fact the whole range of the currently available 716 types of resins—there were none in plastics in 1914—present marvelous materials at the moment to manufacturers and fabricators, and offer a challenge for future development to the scientific research men.

There will, said Dr. Weidlein in conclusion, be real dollars and cents recompense for the continuation and expansion of private industrial research, plus, naturally, the benefits which will come in the health and welfare of the populace. He ended on a note of reiteration that scientific research must not be controlled or directed by management; there can be no schedules or time-clocks to be punched in the laboratories.

American Standards

The part that the paint and varnish industry has played in the development of standards, the importance of standards in the evolution of the industry and the vital need for developing standards within the framework of private enterprise if government is not to take over control were emphasized in an address at the technical session on the first day by Howard Coonley, president of the American Standards Association, who formerly was president of the Walworth Company, and during World War II directed the standardization program of the War Production Board. Mr. Coonley said:—

"Your industry represents an important phase of the intensified program at ASA and I should like to enumerate some of the areas which bear directly on the manufacture of paint and varnish.

"Practically all of the specifications for methods of test for pigments and vehicles used in paint manufacture which have been developed by Committee D-1 of the American Society for Testing Materials have been brought to ASA for approval as American standards. This was initiated as a result of an extensive study by that committee which believed it desirable to obtain ASA approval in order to gain the acceptance of the standards and to bring them to the attention of a wider industrial group than would normally be offered under ASTM operations.

"Just the other day, ASTM brought seven standards involving specifications for pigments to ASA for revision. These standards are now being reviewed by the board of examination of ASA for approval as revised American standards. ASA is serving as a means of introducing these specifications to a wide audience and is bringing to the attention of industry a program of vital importance to the paint and varnish manufacturers.

ASA Program

"The ASA is engaged in a broad program of establishing building code requirements which can be used by state and municipal authorities in the revision of existing codes to bring them up to date and the development of new codes as current requirements demand. For the first time in this country, definite studies are being made of the relationship of interior finishes to the propagation of fire. Your association is competently represented in connection with the Building Code Requirements for Fire Protection and Fire Resistance.

"From your point of view, there are both positive and negative aspects as to your

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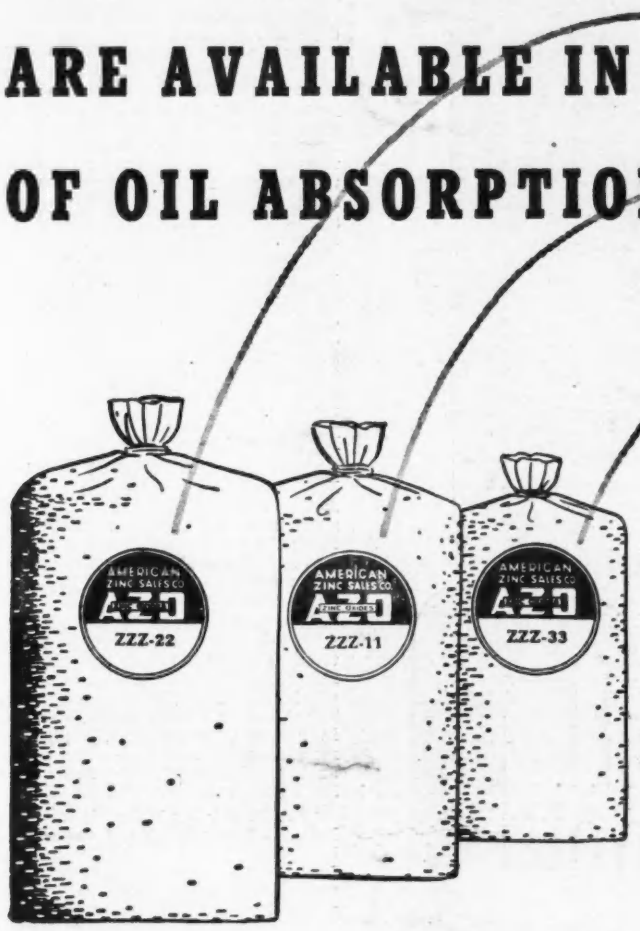

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best interests and the fact that this subject is being carried forward under ASA procedure is guaranteeing full opportunity for you to present your technical points of view in connection with problems of interior finishes. An American standard will come

W. G. Sibley, Jr.
Eastern Vice-President

out of this project only if a real national concensus of its acceptability is indicated. The paint and varnish industry is thereby assured of its day in court.

"Specifications for color and methods of determining color are assuming greater importance as the needs of users of color are better known and the demands of users are more exact. During the war, the ASA approved a War standard for use by government authorities on specifications and descriptions of color which establishes the International Commission on Illumination's trichrometric system as the primary system for the meaurement of color and the Munsell System as the secondary—or referee—system.

"In the field of safety, color has played an important part in setting up procedures which will assist industry in its program of accident prevention. The Safety Code for Accident Prevention Signs provides a uniformity throughout industry of colors for the painting of signs. The Standard refers to caution, danger, direction, first-aid and the like.

Reflection Values

"The American standard for industrial lighting and school lighting and the new standard on office lighting set up the reflection values of paint. This illustrates again the way in which the standards program in the ASA has a direct bearing on the work of the National Paint, Varnish and Lacquer Association.

"The Company Member Committee of the ASA which is composed of the representatives of the 2,100 company members has recommended a new project on the painting of industrial apparatus and equipment. There has been much discussion in the past in regard to special painting systems for machinery giving uniformity of appearance to plant equipment and emphasizing hazardous locations.

"The field of plastics is opening new horizons to the paint and varnish industry in the manufacture of plastic products. You are probably finding yourselves up against many codes and legislative requirements which threaten to limit your markets by giving special recognition to competitive products. Such matters should be handled on a performance requirement basis, making it possible for different products to compete on a commonly accepted formula. ASA can be the medium for the development of such formulae.

Role of Paint Industry

"I have tried to indicate in my talk to you two things:

1. "The paint and varnish industry has had for years a vital stake in the development of standards, and will have an increasing one in the future.

2. "Your industry, in common with all industries of the country, faces the bald choice of having such standards work done within the framework of private enterprise, or of letting it go by default into the hands of government. Vacuums in the regulatory field never remain empty. Either industry and other interested elements will produce their own standards, or government will step in.

"I trust that the National Paint, Varnish and Lacquer Association and its member companies will provide in full measure the technical cooperation and financial support to enable the ASA to serve effectively you and the hundreds of other organizations who have decided for voluntary standards processed through the free enterprise system are vastly more desirable for our economy than standards developed under the government program, which become in effect mandatory."

Raw Material Needs

Also at the technical session, J. W. Reynolds, vice-president of the Sun Chemical Company, New York, and chairman of the national association's raw materials procurement committee, made a preliminary report on the future requirements and potential supplies. Serving with him are E. H. Bucy, Atlas Powder Company; Renshaw Smith, jr., Devoe & Raynolds Company and A. H. Gibson, The Valspar Corporation.

Mr. Reynolds recalled his work as deputy director of the chemicals bureau of WPB and told of the post-war feeling of optimism that raw materials shortages would soon disappear, which was soon dissipated by facts —"we are now consuming phthalic anhydride at five times the rate of 1939"—and reported on progress being made in a survey of future supply and requirements. He said:—

A. J. Knapp
Southwestern Vice-President

"E. E. Hoffman of the association staff has prepared a series of data on the total production and paint industry consumption of various critical raw materials from 1939 to date and with projected estimates through 1951. These data have been prepared by obtaining figures from the Bureau of the Census, War Production Board files, raw material producers, Association records, and other sources. They have been reviewed by the Raw Material Procurement Committee who believe them to be as realistic as projection of our future requirements can possibly be at this time.

Future Needs Estimated

"Approximately twenty of these data sheets have been completed. Others are in preparation. Some very interesting charts have been prepared showing the total pigment and total drying oil consumption in relation to total paint sales. All of this information is being circulated to the raw material and chemical producers. We are pleased to report they are fully cooperating in an effort to provide our industry with an adequate supply of raw materials.

"In some cases many millions of dollars are being invested and as much as two years elapse from the beginning of construction to the starting of production. Fortunately, many of the chemical companies anticipated these shortages and began construction last year. Hence, 1948 should bring a much greater supply of such items as titanium pigments, ketone solvents, butyl alcohol and alkyd resins; additional production of butyl acetate and ethyl acetate will come in 1949.

"The supply of lead pigments should improve gradually, as the world supply of lead in increased. The vegetable oils, as a group, will present an annual problem for evaluation. At present, the potential supply appears adequate for 1948. The work of the committee and the Association staff is continuing and reports and data will be published and sent to the membership from time to time. The first report will be distributed just as soon as the task in connection with the current survey has been completed."

Technical Education

Other speakers at the technical session were Paul O. Blackmore, chairman of the national technical education committee, who told of the progress being made in technological courses sponsored by units of the industry in cooperation with educational institutions in Ann Arbor, Mich.; Baltimore, Chicago, Cleveland, Detroit, San Francisco, Houston and Dallas, Tex.; Louisville, Montreal, Boston and New York. E. J. Mitchell, secretary of the flax development committee, gave a highly encouraging report on the increased production in the northwest

as a direct result of the aggressive flax production program, showing a gain in crops equivalent to 12.2 gallons of paint per acre; and Dr. J. J. Mattiello, of Hilo Varnish Corporation, recounted details of his recent trip to Europe.

Specialized Finishes

Specialized products finishes, related business problems and a lacquer program marked the third day's session. Paul S. Kennedy, of the Finishes Division of Interchemical Corporation and chairman of the national specialized products finishes committee, presided at the morning session. His address was a recounting of the long struggle of this branch of the industry to clear itself of unsound and dishonest commercial practices and a plea for a continuation of aggressive competition on a high level.

Mr. Kennedy traced the growth and transition of the specialized production finishes industry and said that it had finally emerged from a "rule-of-thumb operation to that of a chemical industry."

He said that he felt only recently has there been a general realization of the magnitudes of the problems and the heavy responsibilities placed on it, both as individuals and as companies. A great trust was reposed in our hands, he added, in the form of scientific research and customer obligation. Mr. Kennedy declared:—

"When one is primarily interested in improvement, he thinks first of achieving

N. M. Kelley
Southern Vice-President

a quality performance, and the matter of selling price is secondary. All this time our rather new, but extensive laboratories were developing formidably; and strong laboratory minds are invariably seeking improvement; as contrasted with old idea of our industry that a prime function of the laboratory was one of control and cutting costs.

"Strangely enough, viewing such philosophy from the long viewpoint, the desired result of lower cost is achieved in both cases. But in the one instance it must eventually result in degredation of product, if carried too far; whereas in the other case it so effectively reveals itself to the customer in reduced ultimate cost that the actual package cost of the product may prove merely incidental.

Consulting Engineering Department

"One of the important endeavors in specialized production finishes marketing is to maintain a strong connection with the engineering department. Not alone for the purpose of consulting and helping with regard to future and current production problems, but to prevent going off the handle, and giving a black eye to good products, which just cannot meet some new and radical requirement.

"The usual procedure now is for the engineer to talk about his dream and have our laboratories work on it; so that if, and when, it becomes a reality, the finish performance is one properly geared to it. Then, there's the growing practice of servicemen not confining their efforts to the adjusting of complaints, but of making periodic calls on customers to study the possibilities of improvement and sound economies—rather than taking a stand pat attitude because one has the business.

"I am sure I have no need to tell you this is a very costly pattern for the securing and maintenance of sales. But it is definitely the trend, and our type of business should not be tackled by one who is not prepared to go through with all its ramifications.

"Naturally, such an investment must give return, and when properly handled it gives a sound return. But that does not alter the fact that one not prepared to build the necessary staff and give the necessary service can do irreparable harm to himself and to the industry.

"I think we can well be proud of the enormous and countless savings we have made for our customers within the last ten years. But we can be even prouder of the manner in which each of us has maintained his personal identity and dignity, to the point of running his own show.

"A look at the record—and in this case no less than the OPA of ferreting memory—will reveal that there is probably no more highly competitive field in American industry than that of our specialized production finishes. It was so tough that even when the squeeze between raw material cost and ceiling prices was at its tightest, specialized production finishes needed no cop or OPA to check their selling prices—although a psychiatrist might have been helpful on occasions.

"In any event it makes common sense that when our competition was so intense under regulated conditions, there need be no fear of its disappearance under free trade. But it makes even more sense to maintain our position where competitors can be friendly and understanding, while taking a personal pride in trying to outdo each other productwise. Such is a most healthy situation, because every time we benefit through our ingenuity, our customers benefit much more through substantial savings and better finishes.

"We are intent on building a bigger and better industry. We are determined to dignify it. In my humble opinion, our greatest strength lies in our continued intensive competition, because it includes competition of quality and upgrading. The greatest satisfaction any member of our group can have is to take business away from the other fellow, because of a positive advancement in product. But the typical result of such an incident is to spur other members of our group to further creation and the ultimate beneficiary of all this routine is the customer, who is the life-blood of our existence. His respect is what we strive for and we want to secure it and maintain it by what we can earn for him in sound and substantial savings through intelligent engineering and improved products."

Pigment Dispersion

Phillip H. Dewey, of R-B-H Dispersions Division of Interchemical Corporation, New York, discussed pigment dispersion in lacquers and pointed out how variations of methods and degree of dispersion may effect the development of color, gloss and durability. He said:—

"The incorporation of pigment into a lacquer is fundamentally a relatively simple process in that it consists of displacing the air around the particles with vehicle (wetting), separating the particles by overcoming the cohesive forces (grinding), and moving the particle into the vehicle (dispersing. These of course, are not simple independent steps. There may be and probably are, materials other than air on the particle, notably moisture, and the conditions for displacing water may be radically different from those required for displacing air.

Wetting Part of Grinding

"The size of particles desired in most finishes is considerably smaller than any practical equipment clearance so that we must depend on shear to overcome the cohesive forces. However, wetting is also an important part of the grinding operation because if the particle is readily wetted, the wetting material creeps into the cracks and crevices between the particles of the agglomerate tending to force them apart. If this tendency could be made great enough the grinding step might be eliminated entirely, leaving only the third step of moving the particle into the body of the vehicle, which might then be a simple stirring operation.

"These considerations are for the initial

—Continued on page 84

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Paint Federation

—Continued from page 76

paper. The type of organism was found to have an influence on results.

Another problem in the study was that of devising a satisfactory and reproducible method of recording and rating observed results.

The paint formulation chiefly used is of the iron oxide-linseed oil type. This has given good reproducibility. Nine fungicides have been tested in concentrations of 2 percent. All are found to vary in efficacy with respect to different organisms, so are tested on several. In some instances the addition of fungicides has deferred the weathering of the coating, but the permanence of fungicidal power is still questionable. Comparative tests must be made in the field. The organic agents have been found more nearly satisfactory, but although some fungicidal agents are found to give resistance, none has made a really mildew-proof coating.

Spectroscopy of Drying Oils

A discussion of the applications of the spectrographic method for studying the resin-bodying of drying oils was presented by Ernest A. Hauser, of Massachusetts Institute of Technology, and Frederick J. Kolb, jr., of Eastman Kodak Company.

Spectrographic methods of examination were explored to determine their applicability in providing fundamental data on the resin-bodying reactions. It was stated that chemical studies have been limited by slow reaction rates, interferences, unknown equilibria, and so forth, so that examination by physical radiation methods offers greater promise.

By such spectrographic means, and particularly by Raman and infrared spectroscopy, it was declared, it has been possible in previous work to study the reactions and modifications of primary valence bonds, and sometimes to detect the secondary valence association, in many systems of comparable complexity.

Absorption spectra were determined for a number of varnish materials over a wide spectral range. It is shown that ultraviolet absorption measurements are not useful in following the reaction of the resin-bodying of oils, but that infrared absorption spectra at sufficient resolution should supply essential data without interference.

The investigators, therefore, recommended that the spectroscopic study be continued with an infrared investigation of raw materials and varnish cooks, over the near infrared, vibrational frequencies, with equipment permitting the resolution of lines separated by no more than 10 CM^{-1}.

ASTM Activities

With a brief historical introduction, C. L. Warwick, executive secretary of the American Society for Testing Materials, told of the general work of that organization in the development of specifications on a producer-consumer basis, as well as the perfecting of methods of testing. The growing importance of research in such work was emphasized.

ASTM work in the field of paint is already very broad, Mr. Warwick said. One of its first groups was that on preservative coatings, and it has been carrying on inspections for years in test areas at various points. Special compilations of data on paints and other coatings have been issued at intervals for almost fifteen years, the latest in 1946. These comprise eighty-one specifications and seventy-three methods. Others are in course of development.

The society has a joint committee with the federation, and its collaboration and correlation have been resultful. It also promotes the acceptance of specifications by the industry. Eight methods have been jointly adopted; another is under way. The cooperation extends also to the activities of the Intersociety Color Council, where expansion of the work is contemplated. A new committee on color gloss is to be established, and the texture of engineering materials is to be studied. Individual production clubs cooperate in many ways.

Current activities of the ASTM paint group (committee D1) have to do with drying oils, volatile solvents, bituminous emulsions, traffic paints, accelerated testing, phthalic anhydride, optical properties, flexibility, varnishes, resins, pigments, physical properties, thickness and adhesion of films, and a variety of field tests. The program contemplates the erection of six or more additional test facilities.

New Raw Materials

The raw materials section of the materials and manufacturing committee reported on newly-developed products which are applicable to the coatings industry. The discussion was divided into four general classes—pigments, vehicles, miscellaneous and solvents—which were reported on as follows:—

Pigments

"Some years ago, by a change in crystal form, titanium dioxide in the rutile form became a commercial pigment. This change in crystalline structure resulted in more hiding power per pound of pigment.

"A new lead, basic silicate white lead 45-X, developed by National Lead Company, contains 45 percent lead by weight as compared to 80 percent in basic carbonate white lead. This unusual characteristic of basic silicate white lead 45-X results from pigment particles having a central core of silica so that, while the pigment has the characteristics of lead compounds, less lead is required. National Lead has developed two other pigments, 'Monosal' and 'Normasol,' which are lead salts of salicylic acid. The 'Monosal' being an acceptor for acid thermol degradation products makes it a stabilizer for plastics, such as vinyls. Due to the high degree of U.V. light absorption, it imparts exceptional lightfastness to organic films which results in improved color retention of tints.

"In the colored pigments field, three new ones are being offered by the DuPont Company. Their 'RT-565-D' is a non-bleeding red in the depth range of medium toluidine red having excellent durability and a high level of lightfastness. The 'RT-525-D,BON Red Dark' is a non-bleeding red of outstanding color retention in tints with rutile titanium dioxide. The 'YT-562-D' is a new yellow pigment having excellent lightfastness in blends with rutile titanium dioxide. When combined with 'Monastral' blues or greens, bright and lightfast distinctive colors result. This pigment also demonstrates a pronounced polychromatic effect when made into metallic finishes using aluminum powder.

"Two corrosion inhibitive pigments have been announced by National Lead Company. 'Pigment E' is a double chromate of barium and potassium. The slow but uniform release of chromate ions in the presence of water fulfills a desirable feature of corrosion inhibitors. Chromated red leads are coalesced pigments composed of 75 percent red lead and 25 percent monobasic or normal lead chromates.

Vehicles

"The chemical resistance and electrical properties of styrene films are well known. Prior to 1941 the comparatively high price limited the use of styrene to a small field. As a formulating resin, it was more a laboratory curiosity than a general formulating ingredient. The current low price of styrene makes its use both desirable and attractive. Now the limitation on the use of this resin is the lack of adequate plasticizers. Modification of the styrene by copolymerization with vegetable oils, such as those offered by Archer - Daniels - Midland Company, Dow Chemical Company and others is a step in the right direction but there is still much room for improvement before the full value of styrene can be realized.

"At the time of the 1946 convention, the Goodyear Tire & Rubber Company was just announcing 'Pliolite S-5.' During the past year considerable work has been done and much more is known about this material. The use of 'Pliolite S-5' can produce a flat wall vehicle for about 19 cents per pound that possesses excellent washability, color retention and durability. It is also possible that a ready-mixed aluminum paint may be formulated using this ingredient as part of the vehicle. The resin is available in a high viscosity type for use as a bodying agent and the 'Base 19-S-5' may be used to improve brushing as well as eliminate sagging.

"For some time we have heard discussions on the allyl starches developed at the Eastern Regional Research Laboratory. Since these materials were prepared in laboratory quantities only, it was not possible to adequately exploit the pomising film properties. Now, allyl starch is available for commercial evaluation from at least three sources:—General Mills, Inc., Corn Products Refining Company, and American Maize Products Company. The excellent mar resistance of allyl starch films should be given exhaustive study.

"The Eastern Regional Research Laboratory has now prepared allyl sucrose, which is more compatible with paint thinners than allyl starch. The clear, colorless and hard films obtained from allyl sucrose appear worthy of further study. Small test samples are available. The vegetable oil producers have been modifying oils to improve their versatility. For instance, the chemically treated soyas such as 'Drisoy' produced by Spencer-Kellog & Sons, Inc., have improved drying characteristics. The use of these treated soya oils in place of higher priced linseed makes their use attractive from the economic as well as technical standpoint.

"Pan American Refining Company is offering new petroleum drying oils which are light in color and low in price. Certain heat reactive hydrocarbon polymers are be-

ing offered as extenders for drying oils. Treatment of oils with urethane according to German practice is being studied.

Solvents

"As studies on hydrocarbon solvents progressed, it became evident that close cut fractions and purer compounds were desirable. Today, such products are available in commercial quantities as indicated by

Dr. J. J. Mattiello
Foreign Coordinator

the ready supply of 2 degree toluene and 4 degree xylene.

"Hexane and heptane can also be purchased in quantity. There is a general tendency towards narrower cut fractions, as for instance the new 'Solvessos' 100 and 150, which have a range of 17 degree C. and 16 degree C., respectively. The evaporation rate is also more uniform throughout the range so that solvent blending for definite properties becomes known quantity in formulations of coating compositions.

"The Celanese Chemical Corporation has announced a new type glycol, 2-methyl-1,3 pentanediol. This is a dihydric alcohol with an unusual structure. The Dow Chemical Company is now producing a line of propylene glycols under the name of 'Dowanols.' The Eastern Regional Research Laboratory has produced acetyl ethyl lactate. This is a high solvency ester boiling at 180 degree C. and should prove of value in nitrocellulose lacquers.

Miscellaneous

"Hexoate driers which are the salts of 2-ethyl hexoic acid have been announced by National Lead and McGean Chemical Company. These are not new salts but due to high costs they could not be produced commercially. Pentaerythritol, produced by Heyden Chemical and Hercules Powder, and trimethylol propane, produced by Trojan are polyhydric alcohols that may be used to replace glyerols in alkyd resins to obtain characteristic properties.

"Lactic acid derivatives which may be used as plasticizers for vinyls and cellulose acetate have been produced by the Eastern Regional Research Laboratory. These esters are water white and have very low vapor tension. The Corn Products Refining Company announces sodium phytate, a water white, water soluble salt of inositol hexaphosphoric acid (phytic acid).

Small quantities of certain Dow-Corning silicones were reported to be useful as antifoaming agents in varnish cooking. Triphenyl phosphite made by Monsanto Chemical Company can be added in small amounts to the varnish being cooked, with the result that it reacts with the dissolved iron from the kettle to improve the color of the varnish.

Equipment Data Wanted

Reporting for the manufacturing division of the M and M committee, Herman Shuger commented on the lack of informative data on the operating values of equipment. He compared this condition with that respecting materials when the federation was organized twenty-five years ago. It was his belief that organized efforts, such as had been applied to studies of materials, would be very helpful with respect to information on equipment.

As Mr. Shuger saw it, the need was not for mechanical data or information on the construction of apparatus but for data on productive capacities, satisfactoriness of performance, and costs of both installation and operation. He suggested that an organization be set up to study equipment in operation and assist manufacturers in testing their machines and that the findings be published in the *Official Digest*.

International Aspects

An interesting aspect of the meeting was presented in several introductions of a foreign "flavor." Especially received was the account by Joseph J. Mattiello of his recent visit to England and continental Europe in connection with the inauguration of a triple liaison of the federation, the Oil and Colour Chemists Association, and a group of technical organizations in the French industry. Photographs of the several gatherings were shown on the screen, and Dr. Mattiello spoke with high appreciation of the evidence he had got of a spirit of and desire for technical collaboration.

A number of technical men from other countries—not including Canada which is covered by the federation—were present, and several of them spoke in greetings, in the presentation of papers, or in discussions. Eric Bevan, president of the Birmingham club in England, and Roger Arzens, who is active in technical areas in the Netherlands and Belgium, supplemented Dr. Mattiello's account of the international congress in Paris at which eighteen nations were represented and joined with him in urging that the second international congress be brought to the United States in 1949.

In connection with the introduction of the foreign visitors stress was laid by President Moore, Dr. Mattiello, and several of the visitors on the desirability of considering the areas of activity and purpose which are common to most peoples, rather than dwelling upon their differences. Among other visitors introduced were H. H. Buckley, New Zealand; S. M. Das Gupta, India, who is studying technics at the NPVLA scientific laboratories; Eric B. DuPont, Sweden; H. L. Jacquemente, Netherlands; G. W. Reid-Baker, England; Hans Sander, Sweden; Albert B. Saint Hilaire, France.

NPVLA Scientific Section

A review of current activities of the scientific section of the National Paint, Varnish and Lacquer Association was given by George Sward, assistant director of the section. Problems under study included fire-resistance of paints and other coatings; the fumes of burning paints and the like; the effects of temperature on furniture finishes (cold check); the supply, outlook, and possibilities in the field of paint oils; antioxidants for paints and other coatings.

Mr. Sward also told of the proposal of the section to furnish its abstracts on printed cards. Solicitation of subscriptions for this service is now under way. Expressing his appreciation of John C. Moore, retiring president of the federation and new director of the scientific section, Mr. Sward said that closer ties with the federation would result and would be beneficial to the industry.

The memorial committee reported the deaths of thirteen members. Remembrance was shown in a rising vote, and communications of sympathy to the families of the deceased were provided for.

The prize offered by the *National Paint Bulletin* for the best reports of a club secretary to the *Official Digest* was awarded to the Northwestern club, with honorable mention for Houston, New York and Chicago. Technical subcommittee 12 of the Philadelphia club got the *Digest* Open Forum prize for its contribution, "The Evaluation of New Varnish and Paint Oils," published in July.

The federation golf cup, provided by the Toronto club, was awarded for 1946 and 1947 to the team representing the Philadelphia club. Interest in golf was not widespread in the past two years.

"Plastics Newsfront," quarterly publication of American Cyanamid Company's plastics division, New York, has received the "Best of Industry Award" of the Direct Mail Advertising Association.

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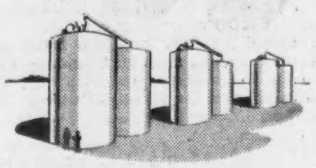

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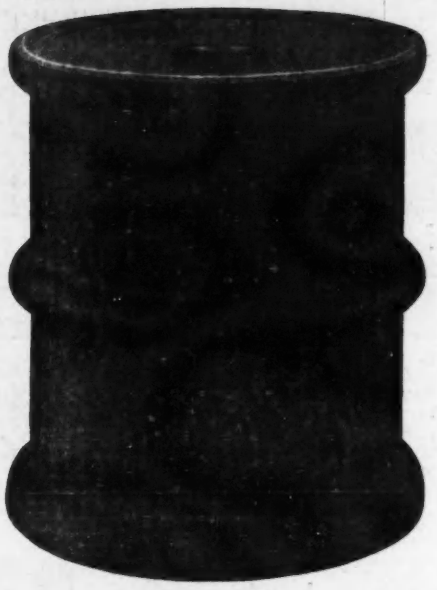

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Drums to carload	500	250
Total acid weight per car, 60,000 lbs.		30,000 lbs.

Sole Distributor

Maurice A. Knight, Kelly Ave., Akron 6, Ohio

NPVLA Meeting

—Continued from page 81

dispersion of the dry pigment into the vehicle, but when it comes to the development and retention of color and gloss you must consider what takes place after the dispersion has been effected. It is not only necessary to separate each particle from its neighbor but it is necessary to keep it from combining with other particles with which it is constantly coming into contact. This recombination of particles after they have been separated, known as flocculation, may occur right after dispersion has been obtained (it may even occur concurrently with it) or it may be a slow process becoming appreciable only after standing some time. In general, the finer the particle size the more readily it flocculates. Carbon black is probably the most finely divided pigment we have, the finest being about 3/1000 of a micron. It is almost never completely deflocculated.

Submicroscopic Flocculation

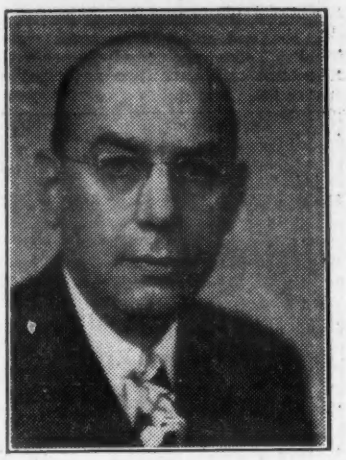
"Many cases with apparently good dispersion but poor gloss when examined with the electron microscope have shown what may be called submicroscopic flocculation. It is submicroscopic because when examined under an optical microscope using the method suggested by Henry Green of Interchemical Research Laboratories the dispersion appears to be complete. However, the electron microscope might show this apparently dispersed material to be flocculated, only on a much smaller side. Such flocculation usually shows up as an undesirable top tone.

"Iron blues often develop a red or brown top tone, blacks show up gray or brown, reds and maroons may be dull and dirty or the colors may be weaker than they should be. In fact, in those cases where the gloss is good, the lack of cleanness of the color is an indication that submicroscopic flocculation has occurred, and is the reason why it is so difficult to obtain a deep jet black. The very finely divided carbon blacks are the ones which normally give the jet colors but the extremely small particles have relatively more atoms on the surface which are unsatisfied and consequently more force of attraction for each other. This results in flocculation which makes itself evident as a buttery, thixotropic, dull or dirty lacquer depending on the degree of flocculation, and sometimes requires rather drastic measures to overcome.

Association With Wetting

"To what extent flocculation is tied in with wetting is a question which is being considered by everyone interested in the dispersion of pigments. It is pretty well agreed that flocculation and poor wetting are closely associated, and that a pigment which is not readily wetted by the vehicle is very likely to flocculate. However, just exactly what constitutes good wetting of a given pigment by a given vehicle is not so well agreed upon. Many people who have worked on the rheology of lacquers and paints have shown that strongly flocculated materials have low mobility and high yield values, that is they are buttery, and that the addition of certain materials in very small amounts often radically changes these properties.

"They have also shown that these additive agents have deflocculated the pigment to a considerable extent and that the degree of deflocculation is roughly proportional to the increase in fluidity. These agents are commonly known as wetting agents or dispersing agents and because of the belief that they change teh nature of the interfacial surface between the pigment particle and the vehicle have been given the more general name of surface active agents. It is not my intention to discuss surface active agents to any great extent because that is a subject in itself, but no discussion of pigment dispersions can ignore them entirely.



W. F. Bennett
Western Vice-President

"Since many of these surface active agents are similar to those used in aqueous media in the cleaning of fabrics to decrease the length of time required to wet the material, it has been assumed that the same wetting action takes place when used in paints or lacquers. Therefore, when the addition of an agent has prevented flocculation it has been felt that the agent in some way caused better wetting of the particle.

Affecting the Particle

"Actually the agent may only have affected the particle in such a way that its force of attraction has been neutralized so that it no longer coheres when it comes in

—Continued on page 90

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Petroleum Derivatives

All petroleum derivatives continued to be in short supply last week despite the best that the industry could do to increase production. Demand was at unprecedentedly high levels and it was considered doubtful that the industry could produce enough to meet present requirements and those of the near future.

It was reported by one large company that it had advanced the price on gasoline generally 0.3c. per gallon and on kerosene 0.8c.

Another major producer announced that it had put into effect a plan whereby it would allocate gasoline, naphthas and diesel fuels in an effort to provide a more equitable distribution of its products. It was expected that similar plans would be announced by other companies shortly. Meanwhile, various plans were being studied with the aim of conserving fuels and in some quarters it was even suggested that the institution of "heatless days" might be made necessary by the difficult situation.

Added to the already tight picture were increased demands from the military services for petroleum products. The huge stocks left over at the end of the war have been largely used up and it was found necessary to replace them, it was reported.

"Demand for petroleum products is greater now than ever before in history, including even the peak war year 1945," according to an announcement recently made by one of the major producers. "At the same time," the statement went on, "the supply of crude oil is at a record level and more petroleum products are being refined and delivered today than at any time in the past. In addition, the industry is expanding its facilities for manufacturing, transporting and storing as fast as possible, spending some four billion dollars this year and next on this program. But the demand for petroleum products is currently running ahead of supply."

In the aromatic solvents field, it was reported that contract prices on toluol would remain stable until the first of the year, but it was expected that prices on xylol would advance before that time.

Activities in the paint industry were still at a record high, with the result that mineral spirits was still in heavy demand, even after recent price rises.

Solvents and Diluents

Aromatic Solvents—While prices had already been advanced on other solvents, contract prices on toluol were to remain stable at their old levels until at least the first of the year, it was reported. Contract prices on xylol will advance prior to the first of the new year, according to some producers, since the spot prices on xylol advanced 1½c. during the previous week. The increased costs of crude oil, coupled with the recently effective increase in freight rates, were the primary causes back of these rises.

Cleaners Naphtha—The supply of this item was still being hampered last week by the generally tight supply condition which has for some time affected petroleum products. Demand for the product continued to be good and prices were reported to be holding firmly at their recently re-established levels. Dry cleaners were no worse off than other naphtha users who found themselves in a somewhat tight market. Pressure of the gasoline demand on refinery schedules tended to exert a depressive influence on naphtha production.

Mineral Spirits—The unprecedented operations in the paint industry this year were continuing to make demand for mineral spirits high at this time. Prices held well at their recently re-established levels. Making the heavy demand situation even more difficult was the tightness in supply, which was brought about largely by lack of sufficient transportation and by pressure on refinery schedules for gasoline.

Rubber Solvent—This material continued to be somewhat short as to supply last week because production of the material was not adequate. Prices, which had recently been elevated, held firm. Quotations on the material had been advanced because of the recent elevation of prices of crude oil and the recent increase in freight rates.

V. M. & P. Naphtha—Pressure on refinery schedules for gasoline continued last week to have its effect on the production of this product. In general, it could be said that the market was in largely the same position in which it was during the previous week. Insufficient production caused the product to be in tight supply and there were no indications of when this situation might be expected to ease.

Market Trends

Prices Advanced

Gasoline, 0.3c. per gal.
Kerosene, 0.8c. per gal.

Prices Reduced

None

(For Current Prices see Page 9)

Lighter Fractions

Butane—This product was reported to be in a tight position as to supply last week, while the demand continued to be exceedingly heavy. It was quoted at 4½c., ex tax, f.o.b. Ventura, Cal.

Propane—A still strong demand was noted for this product last week, but the supply continued to be small and there was considerable difficulty being encountered in the attempts to supply purchasers with adequate stocks. The product was quoted at 4c., f.o.b. Ventura.

Miscellaneous

Crude Oil—Shipments of this product received at Philadelphia during the past week included 90,300 barrels from Tampico; 215,691 barrels from Cartagena, and 124,209 barrels from Port La Cruz. The product continued to be in tight supply and there was considerable competition in purchasing because of the heavy demand that has been affecting the product for some time.

Crude oil output of this country dipped for the second successive week, as runs to stills hit their lowest point since the middle of the Summer, according to the American Petroleum Institute. Crude production fell 34,700 barrels last week to 5,239,550 barrels daily, which was considerably above the daily average of 4,779,450 barrels one year ago. Refineries operated at 91.5 percent of capacity as against 92.2 percent for the previous week.

The Iranian pipeline being planned by combined American and British interests to pipe oil from the Iranian fields to the Mediterranean sea will when completed be the biggest pipeline ever built. The line now being planned will be under construction in 1950 and 1951, it was reported.

Fuel Oil—This product continued to be very tight as to supply last week and, with the advent of cold weather, the industry was hard put to find ways and means of producing enough fuel oil and distributing it on an equitable basis. It was estimated that the product might show a deficit of 5 percent under demand during the next seven months. One leader in the field urged the entire petroleum industry to spread the shortage uniformly among its products. Because of the excessively heavy demand and the scarcity of supply, there was talk in some circles of a possible necessity of establishing "heatless days" in an effort to conserve fuel stocks. The industry, however, hoped such a measure would be used only as a last resort and was busy on plans which were aimed at making the most of all production facilities and at distributing all petroleum products as fairly as possible.

One large producer announced that it would allocate kerosene and heating oils to the company's present customers during the current heating season on an equitable basis, reflecting as nearly as possible the amounts they received for the 1946-47 heating season (June 1, 1946, to May 31, 1947). It was said that the company would continue to study the situation and during the latter part of December would announce the basis for allocation of products after Jan. 1, 1948. It was improbable, however, that allocations after the first of the year would be any higher than at present.

During the period under review it was reported in Philadelphia that 10,000 barrels of fuel oil had reached that port from Curacao.

Fuel oil allocation of sales based on consumer purchases during the 1946-47 heating season were being put into effect by another major producer in the East last week. The effort was designed to conserve fuel oil as much as possible, while at the same time providing an equitable distribution of the companies products. Meanwhile it was hoped by most producers and consumers alike that Government control of the situation could be averted.

Gasoline—In view of the unprecedented demand for petroleum products and the greatly increased requirements of the Federal Government, which must have priority, one major producer last week announced that it will allocate gasoline to its present dealers and direct customers during November and December on a basis of 4 percent less than the quantities delivered in the same months of 1946, subject to necessary adjustments to reflect current trends. The allocation will also include aviation gasoline, naphthas and diesel fuels.

The military services also have been affected by the petroleum shortage, it was said, and the amounts of gasoline the industry feels it is able to provide for the military have not come up to the estimated requirements made by the services. It was pointed out, however, that the services are in great need of gasoline not because of increased activities but because the large stockpiles that were built up during the war period have largely been used and the present requirements reflect the need of replacing them as well as the need for immediate operations.

Effective October 30, one major producer in the East announced that it had advanced the price of its gasoline generally 3c. per gallon.

Kerosene—The shortage in supply of petroleum, coupled with the exceptionally heavy demand, caused one major producer to institute an increase of 8c. per gallon, as of October 30, plus freight where applicable.

Crude Oil Stocks

Stocks of domestic and foreign crude petroleum at the close of the week ended November 1 totaled 225,029,000 barrels, according to the Bureau of Mines. Compared with the total of 224,308,000 barrels for the preceding week, this represented an increase of 721,000 barrels comprising an increase of 384,000 barrels in stocks of domestic crude and an increase of 337,000 barrels in stocks of foreign crude. Heavy crude oil stocks in California, not included in the gasoline-bearing stocks, totaled 5,344,000 barrels, an increase of 117,000 barrels from the previous week.

For Late Market Developments, See Page 4

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Oils, Fats and Waxes

Steadily increasing prices for oils and fats featured the market last week. Leading the advance was cottonseed and soybean oils, which were lifted 2 cents per pound under increased buying interest for government account for export and by refiners. A good volume of business was transacted in these oils on a scale upward. Higher crude prices resulted in the boosting of refined cottonseed and soybean oils futures. Coconut oil was also stronger, with sales transacted at an increase of 1 cent. Corn oil was lifted 1½ cents. Small crude peanut oil output was snapped up at an advance of 1½ cents. Higher cost of basic oils resulted in the raising of coconut, corn, cottonseed, peanut and soybean fatty acid 2 cents. Scarcity of crude fish oils and a good inquiry from refiners, caused producers to advance prices 1 cent on the Atlantic and Pacific coast for limited quantities. Tight supply conditions in tallow and greases continued to hamper trading. Market while nominally unchanged was stronger and increased bids of 1 cent per pound found only little selling interest. Some soapmakers and other consumers were in the market, but sales were restricted to small lots at the higher levels.

Contemplated purchases of crude and once refined soybean oils and bleached and prime summer yellow cottonseed oils all in bulk by CCC for delivery prior to June 30, 1948, was announced by the Department of Agriculture last week. Tank wagons will be acceptable for delivery to CCC's storage. Offers should be sent to Herman M. Young, Procurement Import Division, Fats and Oil branch, PMA, Department of Agriculture, Washington, D. C. For phone inquiries, call Republic 4142, extension 3228. Offers may be made by accredited brokers, but must be confirmed immediately by principals by telegram. Crude soybean oil offers should be made f.o.b. mills and once refined soybean oil, bleached and prime summer yellow cottonseed oils, either basis New York or New Orleans delivery or both.

Cottonseed Oil

Increased buying interest by domestic consumers and for government account for export raised prices of bleachable oil sharply and new seasons highs were registered last week. Volume of trading continued heavy and the trend of the market was steadily upward. Crude oil was firmer and considerable trading was reported for nearby and forward delivery from 24c. to 26c. per pound, tankcars, f.o.b. mills, throughout the belt, a net gain of 2c. for the week.

Department of Agriculture announced November 12 the additional purchase by CCC of 675,000 pounds of oleomargarine, colored, (temperate) and offers to be submitted under the same terms and conditions as previously indicated in Announcement FO-36 dated September 19, 1947. Delivery is desired to permit CCC to make complete shipment of this quantity as soon as possible. Preference may be given to earliest deliveries offered. Offers must be submitted by telegram instead of on Offer Form FOO-36 to:—

Domestic Procurement Section, Fats and Oils Branch, Production and Marketing Administration (CCC), U. S. Department of Agriculture, Washington 25, D. C., not later than 11:00 a.m. November 20. Further details with respect to this purchase may be obtained by communicating with Charles G. Graves of the Washington office, telephone REpublic 4142, Extension 4476.

Department of Agriculture placed the probable 1947 cotton crop, based on November 1 conditions, at 11,505,000 bales. This compares with 11,508,000 bales indicated on October 1 and final production of 8,640,000 bales in 1946. Average 1936-45 production was 12,390,000 bales. The department placed indicated yield of lint cotton at 261.2 pounds per acre compared with 1946 yield of 235.3 and the 1936-45 average of 250.6 pounds. At the same time, the Census Bureau reported that ginning of cotton prior to November 1 amounted to 8,361,685 running bales. Prior to October 18, ginnings from the 1947 crop amounted to 6,767,485 bales. Ginnings prior to November 1, 1946 totaled 5,726,145 bales and 5,151,873 for 1945.

Cottonseed oil disappearance was indicated at 322,950 barrels in October, compared with 203,700 barrels in September and 276,435 barrels in October last year. The visible supply of seed and oil was estimated at 1,548,900 barrels on October 31, against 794,500 barrels at the end of the previous month and 1,300,700 barrels on October 31 last year.

Memphis—Crude cottonseed oil very active at 25c. to 26c. per pound, tanks, according to location. November-January shipment. Crude soybean oil, 22c. for nearby and 21c. for later deliveries. Cottonseed meal, 41 percent, $90 per ton, November-December. Cottonseed hulls, $14 to $15 per ton, f.o.b. mills.

Prices of refined bleachable prime summer yellow cottonseed oil in tankcars on the N. Y. Produce Exchange for the week ended November 14, follow:—

	Sales	Cents per pound High	Low	Close
December	27	28.90	27.50	28@
January	..	..	..	26.75@27.75
March	174	26.80	25.50	26.50@
May	196	26.60	25.35	25.85@
July	29	26.25	25.95	25.35@25.70
September	3	26.80	25.80	24.50@25.75
October	3	25.50	25.50	24@25.50

Total sales—432 tankcars.

Crude oil was sold at 26c. per pound, tankcars, and bids in the Southeast and Valley. Sales were reported at 26½c. Texas for early December shipment.

Linseed Oil

Consuming inquiry was reported improved for January forward requirements and trading of moderate volume was placed for the first half of next year delivery. Supplies for prompt and nearby delivery were scarce and offerings for the balance of the year were scarce and restricted to small drum quantities. Quotations were entirely nominal for raw oil at 30.6c. to 31.3c. per pound, tankcars for November-January. Futures were firm and crushers were quoting on the basis of 30.1c. per pound tankcars, for February-September delivery. Flaxseed markets remained firm and good demand absorbed spot and prompt deliveries at $6.89 per bushel.

Minneapolis—There was a noticeable pick-up in demand for oil and more crushers were showing reticence about taking on forward contracts for the February-March period. Most of the crushers have virtually withdrawn from the January market and many of them are out of the competition for February business. Prices showed a tendency to tighten on for nearby shipment, the average price being 30.8c. per pound, tankcars November-December shipment with a few crushers asking as high as 31.1c. All classes of buyers were in the market for supplies; very few taking much interest in the nearby price but willing to contract from January-forward at 29.6c. a pound. Mill production continued at a high level with shipping instructions good and shipments held down only by the lack of tankcars.

Shipments of linseed oil, in pounds, were as follows:—

	1947-48	1946-47
This week	6,600,000	6,360,000
Since Sept. 1	73,420,000	64,940,000

Los Angeles, November 13—Price of linseed oil was up here last week. Inquiry was fair. Raw oil was quoted at 30.3c. per pound tankcars for prompt delivery, and 29.7c. for carlots in January.

Flaxseed—Light seed offerings and active demand continued to keep the market strong.

Minneapolis—Demand for flaxseed continued brisk with prices holding firm at $6.80 on a spot basis and bids on arrive offerings down to $6.70 a bushel. Sales on a to arrive basis, following the 10c. decline were practically nil and sellers do not look for a continuation of the $6.70 bid—that is as long as crushers want flaxseed. The car situation in the Northwest continued to tighten up with wheat and barley getting priority over flaxseed and other grains when the choice was up to a shipper. Sellers know that crushers want flaxseed and are of the opinion that they will continue to pay top prices, however, the situation on wheat was developing definite weakness as CCC buying operations tapered off and barley shippers were working with an advancing market. Weather over the Northwest was improved from the standpoint of Spring planting, a fortnight of rain and snow replacing much of the moisture drawn from the soil by the 1947 crops and outlook much improved for 1948. Fall moisture in leading flaxseed producing states was only 60 to 90 percent of normal and the late October and early November rain and snow created a much better moisture outlook.

Shipments of flaxseed in bushels were as follows:—

Bushels—	Receipts 1947-48	Receipts 1946-47	Shipments 1947-48	Shipments 1946-47
This week	596,100	499,200	187,000	600,100
Since Sept. 1	15,209,800	9,985,800	2,023,500	2,425,400

Market Trends

Prices Advanced

Beeswax, refined, 2c. to 4c.
Carnauba wax, 2c. to 4c. per lb.
Coconut fatty acids, 2½c. per lb.
oil, 1c. per lb.
Corn, fatty acids, 2½c. per lb.
oil, 1c. per lb.
Cottonseed, fatty acids, 2½c. per lb.
oil, 2c. per lb.
Menhaden oil, crude, 1c. per lb.
Peanut, fatty acids, 2½c. per lb.
oil, 1½c. per lb.
Sardine oil, crude, 1c. per lb.
Soybean, fatty acids, 2½c. per lb.
oil, 2c. per lb.
Tung oil, ½c. per lb.

Prices Reduced

None

Comparative Price Indexes

(100=August 1, 1914)

Last week.	Prev. week.	Last month.	Last year.
242.6	236.9	215.3	283.0

(For Current Prices see Page 9)

For Late Market Developments, See Page 4

Other Vegetable Oils

Castor, Dehydrated—This oil was in moderate request, chiefly for immediate needs. Prices were unchanged and fairly steady.

Cocount—Crude oil was reported sold at 23c. per pound, buyers tankcars, f.o.b. Pacific coast for November-December shipment, an advance of 1c. Offers were scarce and prompt shipment commanded premiums. January-March was quoted at 21½c., same basis. Copra was sold at $250 per short ton, c.i.f. Pacific coast, for nearby shipment.

Corn—This market was higher with competing oils. Crude oil was in good demand, and following sales at 25c. per pound, tankcars, f.o.b. mills, the price was lifted to 26c. Refined oil was firmer with trading reported at 30c. per pound, tankcars, f.o.b. mills, and 31c. asked.

Oiticica—Supplies on the spot were limited and well held. Trading was spotty. Prices were steady. Drums were quoted at 24c. to 25c. per pound, depending upon quantity and seller. Higher tung oil market has improved the tone of this market.

Olive—This market was a dull and nominal affair. Demand was inactive and market easy. Spanish oil was merely nominal at $6.10 to $6.25 per gallon, drums, duty paid on the spot and Moroccan oil $5.60 to $5.75, same basis.

Peanut—Limited production of crude oil was readily sold at 27c. per pound, tankcars, f.o.b. mills. Most purchases were made by small refiners for specialty purposes. CCC offered 1,000 tons of peanuts last week, which will produce about ten tankcars of oil. It is indefinite when CCC will begin to offer peanuts in volume. Refined oil was higher at 32c. per pound, tankcars, mills.

Capetown (Comtelburo)—Department of Agriculture decided to release a further 2,100 bags of seed peanuts for planting in South Africa in view of the world-wide shortage of vegetable oils. Thirty-five thousand bags of seed will be planted this year against 20,000 last year. The production of peanuts has been encouraged in northern Natal, northwestern Orange Free State and irrigated areas since the end of 1942, before which production of oil-bearing seed was mainly confined to Northern Transvaal and the maximum annual production totaled about 10,000 tons shelled nuts grown from about 10,000 bags of seed. The "Union's" average annual use of peanuts in oil expressing alone amounted to approximately 40,000 tons from 1941 to 1945.

Rapeseed—Market was quiet, but steady. Refined oil was nominal at 32c. per pound, tankcars, New York delivery.

Soybean—Active trading boosted prices again last week. Offerings for nearby delivery were light. Crude oil sold at 25c. per pound, tankcars f.o.b. mills, November shipment. December was 24c. bid, January 22½c. bid and February-March 22c. bid. Futures were also firmer and April-June was reported sold and bid at 21c. Refined oil was lifted to 28c. per pound, tankcars, mills. Active buying of once refined soybean oil for export for government account was reported at undisclosed prices last week. CCC recently purchased 4,660,000 pounds of refined soybean oil for export at an average price of 26.531c. per pound. This total exceeded the request for 3,300,000 pounds made October 27. However, the trade did not respond to concurrent request for offers of 2,200,000 pounds of hydrogenated soybean oil it was reported by an official of the agency.

Prices of refined bleachable soybean oil, in tankcars on the N. Y. Produce Exchange for the week ended November 14, follow:—

	Sales	High	Low	Close
		Cents per pound		
December	..	..	..	24N
January	2	24.50	24.50	23.50
March	2	25	25 23.80	24.50
May	..	..	..	24N
July	..	..	..	24N
September	..	..	..	24N
October	..	..	..	24N

Total sales—4.

Tung—Increased and reduced offerings strengthened this market last week. Sales were reported at 26½c. per pound, tankcars, New York basis, for nearby and future delivery. Market was firm and nominal, ranging from 26½c. to 27c. for tankcars, depending upon seller and position. Drums in carlots were quoted at 28c. per pound, and lesser quantities at 28½c. Arrivals totaled 1,650 tons of tung oil at New York last week, for delivery on previous contracts.

Los Angeles—Market tone firm, but prices were generally higher. Oils in tankcars were quoted as follows:— Castor, cold pressed, 27c.; coconut, crude, 21½c. per pound, f.o.b. Los Angeles; cottonseed, crude, 25c. per pound, f.o.b. Los Angeles; mustardseed, 18c. per pound; peanut, crude, 25½c. per pound; sesameseed, crude, 25c. per pound; soybean, 24c. per pound, f.o.b. Los Angeles; tung, 26¼c. per pound, San Francisco.

Fats and Greases

Grease—Active consuming inquiry, combined with light offerings continued to keep this market firm. Production was sold well ahead and quotations while unchanged

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were strong and more or less nominal. Choice white, 24c. to 25c. per pound, loose, yellow, 21½c. to 22½c. and house, 21¼c. to 22¼c.

Lard—This market was firmer under improved demand for prompt delivery and the advances in competing oils. Offerings were not as liberal as heretofore. A truck convoy bearing 300 tons of American lard from Antwerp left for Czechoslovakia last week under a new system of patrols along the route to ward off possible attacks from hungry people. The trucks formerly were protected by armed soldiers, according to the news agency Aneta.

Tallow—Tight supply conditions featured this market. Demand was active, but trading was restricted owing to the scarcity of supplies. Production was sold well ahead. Bids for sizable quantities of fancy were reported at 25c. with no sellers. Sales of small lots of the better grades were made at premiums at more than 1 cent per pound. Nominal quotations were repeated, but the market was considered at least 1c. higher than a week ago. Fancy, 24c. to 25c. per pound, loose; extra, 23¾c. to 24¾c., and special, 23½c. to 24½c.

Animal Oils

Degras—Demand was confined to moderate lots for immediate needs. Prices were steady and unchanged.

Grease Oil—Business was restricted to immediate needs. Prices were strong and reflected the advancing trend of pressing stock.

Neatsfoot Oil—Consumers were operating in a hand to mouth manner. Quotations were entirely nominal and depended upon quality.

Oleo Oil—This market continued firm with pressing stock. Offerings were light and closely held. Extra oil was nominal at 30c. per pound, tierces.

Fish Oils

Cod—Market continued steady. Inquiry was fairly active. Supplies were scarce on spot and for prompt arrivals. Prices were nominal at 22c. per pound, drums.

Menhaden—Trading was light and spotty. Refined oil was steady and reflected the strength and the scarcity of crude oil. Market for crude oil was higher and quoted nominally at 21c. per pound, tankcars, works.

Sardine—Trading was limited to actual needs. Prices were unchanged and firm. Supplies of refined grades were closely held at former levels. Crude oil was scarce and nominal at 21c. per pound, loose, Pacific coast.

Los Angeles—Price of oil was higher last week. Fishing continued to be poor, the catch to date being behind that of last season .Oil was quoted at 21c. per pound, loose, f.o.b. works.

Fatty Acids

Higher cost of basic oils resulted the advance of 2½c. per pound for corn, cottonseed, coconut, peanut and soybean fatty acids. Prices were more or less nominal. Tankcars were quoted at 22½c. per pound and drums, carlots, were 1½c. higher.

Red Oil—Business was reported confined to small lots for immediate needs. Market was strong and reflected the upward trend of pressing stock. Quotations were unchanged.

Stearic Acid—Tight supply situation in pressing stock kept this market in a firm position. Trading was limited to immediate needs. Prices were without change.

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Cake and Meal

Cottonseed Meal—Most of the demand continued from western drought states. Slab cake is offered at $83 per ton, Memphis, for November-December and bid $82.50 November and $82 December. The fact that Southeastern meal is selling at a discount under the Valley market can be attributed only to the poor demand in Southeast and North Atlantic states. However, South Carolina mills managed to sell a fair quantity sacked 41 percent last week at prices ranging from $83 to $85 for November. Georgia mills continue to sell scattered carlots at $84 to $86. Sacked 36 percent is quoted at $75 to $78 in the Southeast. Round lots of meal, sacked, 41 percent were sold at $86 per ton late in the week.

Linseed Meal—Improved demand for prompt delivery has created a firmer tone. Withdrawals against contracts continued active.

Minneapolis—Demand for meal showed improvement with the coming of cold weather and prices generally moved to the $84 on spot supplies and for November shipment. Crushers were not aggressive sellers and were inclined to waive discounts on December meal, or at least offered only $1 to $1.50 per ton less for deferred months. Instructions were brisk and movement was large into consuming channels.

Shipments of linseed meal, in pounds, were as follows:—

	1947-48	1946-47
This week	9,960,000	11,220,000
Since Sept. 1	114,840,000	85,540,000

Peanut Meal—Not enough meal produced to constitute a market. Sacked 45 percent offered at $66 to $90 in lots of 30 to 60 tons with occasional cars selling. From the 1,000 tons for sale last week for crushing only 500 tons of meal can be produced.

Out of the 111,207 tons of peanuts allocated for export during the 1947 fourth quarter, only 26,757 tons have actually been purchased, by following countries:—Canada 550, Netherlands 14,560, Poland 8,382, Venezuela 3,265. Netherlands, Poland and Venezuela are the only countries who have purchased 100 percent of their allotment. The army is expected to purchase another 7,000-ton lot No. 2 shelled peanuts for export despite protests by producers' organization.

Waxes

Beeswax—Firm crude markets strengthened refined grades and prices were advanced 2c. to 4c. per pound. Demand improved for prompt and nearby requirements. Bleached, U.S.P. was quoted at 69c. to 71c. per pound for slabs and 70c. to 73c., bricks, according to quantity. Refined yellow was named at 58c. to 60c., slabs and 60c. to 62c., bricks. African crude was firm at 49c. to 50c. and Western hemisphere, 50c. to 51c., on the spot.

Candelilla—This market remained steady, with trading moderate for spot delivery. Prices were unchanged and well held.

Carnauba—Stronger Brazilian market and improved trading created a firmer tone and quotations were lifted 2c. to 4c. per pound for spot and prompt delivery. Consumers were in the market and replenished inventories. Chalky, No. 3 was quoted at 73c. to 74c. per pound; North country, No. 2, 83c. to 85c.; North country, No. 3, 77c. to 79c., and refined, 84c. to 86c., according to quantity. Yellow was scarce and nominal at $1.50.

Japan—Supplies on the spot were scarce and firmly held. Quotations ranged from 55c. to 57c., as to quantity.

Ouricury—Trading was moderate and the market remained steady. Crude was quoted at 62c. to 64c. per pound, and refined at 66c. to 68c., according to quantity.

O'Cedar Corp. Elects Barnes President

O-Cedar Corporation, manufacturer of polishes and waxes, Chicago, has elected George Barnes president. He was formerly executive vice-president and general manager. Mr. Barnes has appointed P. K. O'Connor vice-president in charge of factory operations and W. J. Luedke vice-president in charge of advertising and sales promotion.

Denmark Signs Trade Agreements With Switzerland, Czechoslovakia

Trade agreements are reported to have been made between Denmark and Switzerland and between Denmark and Czechoslovakia. The arrangement with Switzerland calls for the exchange of Swiss copra and other products in return for Danish cattle and other export goods. From Czechoslovakia, Denmark will receive glass, porcelain, ceramics, chemical and paper products and other goods in exchange for lard, fish and whale oil, casein, agar-agar, cryolite, medical raw materials and other products.

Copra and coconut oil shipped from Malaya to the United Kingdom in September totaled 4,267 tons.

Current Prices

—Continued from page 31

Zinc carbonate, tech., rubber makers'	bbls., works	lb.	.10¾- .11¾
USP, precip., powd.,	bbls.	lb.	.35 - —
	dms.	lb.	.40 - —
	kgs.	lb.	.37 - —
Chloride, tech., fused,	dms., c.l., works	100 lbs.	6.25 - —
	l.c.l., works	100 lbs.	6.55 - —
	gran., bbls., c.l., works	100 lbs.	7.00 - —
	l.c.l., works	100 lbs.	7.40 - —
	solution, 50%, dms., c.l., works	lb.	.0365- —
	l.c.l., works	lb.	.0425- —
	tanks, works	lb.	.0300- —
USP, gran.,	dms.	lb.	.30 - .31
	jars	lb.	.35 - .36
Chromate (see Yellow, zinc).			
Cyanide, kgs., works		lb.	.34 - .35
Diethyldithiocarbamate, dms., works.		lb.	1.15 - —
Dust, bbls., c.l., dlvd.		lb.	.1250- .1260
l.c.l., dlvd.		lb.	.1275- .1300
Fluoride, bbls., works		lb.	.18 - .19
Hydrosulphite, dms., works		lb.	.16 - —
Iodide, NF, jars		lb.	4.65 - —
Laurate, bbls		lb.	.45 - .46
Linoleate, solid, 9½%, bbls		lb.	.53¼- —
Metal slabs		lb.	.1106- —
E. St. Louis		lb.	.10½- —

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10% Zn, dms		lb.	.24 - —
solid, 14% Zn, dms		lb.	.31¾- —
Oxide, pigment, dom., acicular, bgs.,	c.l., ship't point, frt. alld.	lb.	.10 - —
	l.c.l., works	lb.	.10¼- —
American process, com'l lead-free, bgs.,	c.l., ship't point, frt. alld.	lb.	.10 - —
	l.c.l., works	lb.	.10¼- —
leaded, 5%, bgs.,	c.l., ship't point, frt. alld.	lb.	.10 - —
	l.c.l., works	lb.	.10¼- —
35% or more, bgs.,	c.l., ship't ship't point, frt. alld.	lb.	.11¾- —
	l.c.l., works	lb.	.12 - —
50%, bgs.,	c.l., ship't point, frt. alld.	lb.	.12⅝- —
	l.c.l., works	lb.	.12⅞- —
French process, com'l, lead-free, bgs.,	c.l., ship't point, frt. alld.	lb.	.12¼- —
	l.c.l., works	lb.	.12½- —
green, seal, bgs.,	c.l., ship't point, frt. alld.	lb.	.11¾- —
	l.c.l., works	lb.	.12 - —
red seal, bgs.,	c.l., ship't point, frt. alld.	lb.	.11¼- —
	l.c.l., works	lb.	.11½- —
white seal, bgs.,	c.l., ship't point, frt. alld.	lb.	.12¼- —
	l.c.l., works	lb.	.12½- —
USP, ctns.,	c.l., ship't point, frt. alld.	lb.	.13¼- —
	l.c.l. same basis	lb.	.13¾- —
Zinc oxide Pac. coast prices ¾c. higher; bbls., prices ¼c. higher than bgs.			
Resinate, fused, 9% Zn,	powd., dms.	lb.	19½- —
Silicofluoride, bbls., works		lb.	.11 - —
Stearate, ctns.,	2,000 lbs.	lb.	.47 - —
	smaller lots	lb.	.48 - —
Sulphate, cryst., 22% Zn, bgs.,	c.l., works, frt. alld.	100 lbs.	4.15 - —
	l.c.l., same basis	100 lbs.	4.90 - —
flake, 25½% Zn., bgs.,	c.l., same basis	100 lbs.	5.55 - —
powd., 36% Zn, bgs.,	c.l., same basis	100 lbs.	6.75 - —
	l.c.l., same basis	100 lbs.	7.50 - —
Zinc sulphate in bbls., 40c. higher			
Sulphide, pure, bgs.,	c.l., dlvd.	lb.	.10½- —
	l.c.l., works	lb.	.10¾- —
Barium pigment, bgs.,	c.l., dlvd.	lb.	.07½- —
	l.c.l., works	lb.	.07⅝- —
Calcium pigment, bgs.,	c.l., dlvd.	lb.	.07½- —
	l.c.l., works	lb.	.07⅝- —
Luminescent pigment, frt. alld.		lb.	1.00 - 3.00
Magnesium pigment, bgs.,	c.l., dlvd.	lb.	.07½- —
	l.c.l., dlvd.	lb.	.07⅝- —
Zinc sulphide and pigment, Pac. coast prices ¾c. higher; bbl. prices ¼c. higher than bgs.			
Sulphocarbolate, NF, gran.,	bbls., dms.	lb.	.26 - .30
Yellow (see Yellow, zinc).			
Zinc-ammonium chloride,	bbls., c.l., works	100 lbs.	7.15 - —
	l.c.l., works	100 lbs.	7.55 - —
Zinc-cadmium sulphide, fluorescent,	cns., frt. alld.	lb.	2.00 - 2.80
Zinc-formaldehyde sulphoxalate, basic,	dms., works, frt. allde	lb.	.17 - —
normal,	dms., works, frt. allde	lb.	.35 - —
Zinc-iron oxide pigment,	bgs., c.l. dlvd.	lb.	.08½- —
	Pac. coast	lb.	.09¼- —
	l.c.l., dlvd. E. of Rockies	lb.	.09 - —
	Pac. coast	lb.	.09¾- —
Zircon (see Zirconium silicate).			
Zirconium acetate, solution,	bbls., works	lb.	.25½- —
Hydride, cns., works		lb.	7.00 - —
Oxide, 88%, 92%, grd.,	bbls. or bgs., any quantity, works	lb.	.25 - —
98½-99%, white, grd.,	bbls. or bgs., works	lb.	1.50 - —
lump, electric-fused,	bgs., c.l., works	lb.	.44 - —
	5 tons, works	lb.	.44½- —
	2,000 lbs. and less, works	lb.	.45 - .48
milled, electric-fused,	bgs., c.l., works	lb.	.59 - —
	5 tons, works	lb.	.59½- —
	2,000 lbs. and less, works	lb.	.60 - .63
Oxychloride, cryst.,	ctns., 5 tons, works	lb.	.29½- —
Silicate, granular,	bgs., c.l., works.	lb.	.03¾- —
	5 tons, works	lb.	.04 - —
	2,000 lbs. and less, works	lb.	.04¼- .04¾
milled,	bgs., c.l., works	lb.	.04¾- —
	5 tons, works	lb.	.05¼- —
	2,000 lbs., works	lb.	.05¾- .06¾
refined,	bgs., c.l., works	lb.	.11 - —
	5 tons, works	lb.	.11½- —
	2,000 lbs. and less, works	lb.	.12 - .16
Sulphate, basic, cake,	ctns., c.l., works	lb.	.37½- —
	5 tons, works	lb.	.38 - —
	2,000 lbs. and less, works	lb.	.38½- .39

Synthetic Resins

The customary monthly listing of prices for synthetic resins and other branded paint materials was printed in the Nov. 3 issue of OPD.

Mack-Miller Candle Co. Bought by Woolworth

The Mack-Miller Candle Company, manufacturer of church and decorative candles, Syracuse, N. Y., has been purchased by Norman B. Woolworth, of New York. Charles F. Carr, former secretary and treasurer of Aircooled Motors Corporation, has been named president of the company and William L. Connor will continue as its vice-president and general manager.

Brown Oil & Chemical Corp. N.E. Office in Malden, Mass.

The office and warehouse of the New England division of the Brown Oil & Chemical Corporation is now located at 233 Commercial street, Malden, Mass. Robert Truesdale, New England manager, has announced that he expects to have an adequate stock of special oils, vegetable oils and naval stores at all times for immediate shipment.

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PHILADELPHIA 6, PA.
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JAPAN WAX REPLACEMENT
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You will be interested in these unique specifications:

	Melting Point °F Minimum	Penetration 100 gms at 77°F	Color N.P.A.	Saponification Number	Acid Number
Crown 23	180/185	6 Max.	4½ - 6	55 - 65	20 - 25
Crown 35	180/185	8 Max.	5½ - 8	85 - 95	30 - 35

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R-12d

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Lacquer Sales In July - September

Sales of lacquer for the third quarter of 1947, as compared to the second quarter of this year and the third quarter of 1946 from reports received by the Bureau of Census from 158 manufacturers (approximately 84 percent of the industry), were as follows:—

	1947 Third quarter	1947 Second quarter*	1946 Third quarter
Gallons	16,855,381	17,295,682	19,156,381
Value	$29,953,913	$30,801,251	$29,426,344
Clear lacquers—			
Gallons	4,167,639	4,376,844	4,502,405
Value	$7,809,945	$8,135,459	$7,425,953
Pigmented lacquers—			
Gallons	4,648,116	4,892,334	6,067,223
Value	$13,397,717	$14,088,125	$13,797,570
Bases and dopes—			
Gallons	697,236	708,507	851,682
Value	$1,128,822	$1,167,733	$1,169,807
Thinners—			
Gallons	7,342,390	7,317,997	7,735,071
Value	$7,617,429	$7,501,936	$7,033,014

* Revised.

Protective Coatings

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last week, depending upon the grade, in carlots. The shorter fibers, such as those used principally by the protective coating industry as fillers showed the smallest change, while the higher priced long fiber materials underwent the greatest change.

Casein—Argentine production was approaching its highest point while domestic production was seasonally declining toward its lowest point. Demand continued sluggish, with New York prices for domestic acid ground material ranging from 30 to 32 cents per pound f.o.b. plant. Spot Argentine material was reported to be offered at 29 cents per pound with December deliveries quoted at 28 cents. Chicago markets for casein were reported to be slower as lower prices for Argentine material hampered sales of domestic casein.

September production of dry casein, according to the Bureau of Agricultural Economics, was the highest for the month since 1941. Production during that month was estimated to be 2,530,000 pounds, a gain of 120 percent over September of last year. For the first nine months of this year, total domestic production of dry casein was estimated to be 27,833,000 pounds. Stocks at the end of September were hit a new low for this date, amounting to only 2,550,000 pounds as compared with 4,790,000 pounds in 1946 and 7,000,000 pounds in 1945.

Despite the low domestic inventories currently prevailing, trading was slow, and the increased production of domestic material made the supply picture apparently adequate.

Naval Stores

Rosin and turpentine on the Savannah market held relatively firm all week, with a 1-cent advance on WG rosin and 25 cents advance on G to N rosin per 100 pounds. The New York market in rosin was characterized by strong trading, while turpentine continued fairly steady. There was some evidence of users tending to switch from gum turpentine to steam distilled turpentine because of the price differential. Observers, meanwhile, felt that if any great quantity of gum turpentine were placed on the market, that prices would drop slightly.

Savannah, Nov. 14.—Following is a record of the turpentine market for the week:—

	Bulk, gallons Cents.	Sales.	Barrels Receipts.	Shipments.	On hand.
Monday	64	126	156	172	10,386
Tuesday	..	...	...	...	...
Wednesday	64	2	78	107	10,357
Thursday	64	...	61	17	10,401
Friday	64	...	514	425	10,490

Savannah, Nov. 14.—Following is a record of the rosin market for the week:—

	Price per unit— Low of range quoted Mon.	Tues.	Wed.	Thurs.	Fri.
B	$6.50	...	$6.50	$6.50	$6.50
D	6.50	...	6.50	6.50	6.50
E	6.90	...	6.90	6.90	6.90
F	6.90	...	6.90	6.90	6.90
G	8.75	...	8.75	8.75	9.00
H	8.75	...	8.75	8.75	9.00
I	8.75	...	8.75	8.75	9.00
K	8.75	...	8.75	8.75	9.00
M	8.84	...	8.84	8.84	9.00
N	8.84	...	8.84	8.84	9.00
WG	8.90	...	8.90	9.05	9.05
WW	9.06	...	9.06	9.16	9.30
X	9.06	...	9.06	9.16	9.30
			Barrels		
Sales	...	100	100	50	124
Receipts	1,127	...	938	319	70
Shipments	1,327	...	283	84	80
Stocks	9,704	...	10,359	10,594	10,584

NPVLA Meeting

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contact with another particle. Whether this has permitted better wetting of the particle by the vehicle or not is of course immaterial, since the results are the same from a pratical point of view. We are, however, always endeavoring to find the right explanation so that when another problem comes up we can better judge the best possible solution. In order to confuse the issue further some materials have just the opposite effect. For example, the addition of a very small amount of water to a nice fluid ((deflocculated) TiO_2 dispersion in mineral oil will thicken it up to a stiff, buttery (flocculated) paste.

"I have indicated in almost everything I have said so far that flocculation is undesirable, but this is not entirely true. There are numerous instances where flocculation is definitely desirable, in fact almost every application of lacquers requires some degree of flocculation for satisfactory use. Since lacquers are almost always applied to objects which have some vertical surfaces, it is necessary to have the finish develop a yield value of stiffness to prevent excessive draining. This may be accomplished by solvent manipulation so that flocculation occurs shortly after application to body-up the film and keep it in place.

"This is particularly important when the finish is applied by dipping. If the proper combination of solvents is used the flocculation which occurs at this time will not unduly affect the color. The problem then becomes one of controlling the degree of flocculation which amounts to a compromise between developing the maximum color and covering power, and obtaining a satisfactory nonflow condition. Of course, the viscosity may also be increased by solvent manipulation. Then less flocculation is required to prevent running and there is less danger of affecting the color.

Harry E. Stone, of the American Lacquer Solvents Corporation, Phoenixville, Pa., presided at the lacquer session which followed after an address on Russia by Representative Dirksen.

Dr. J. S. Long, chemical director of the Devoe & Raynolds Company, presented a detailed history and evolution of the development and use of nitrocellulose lacquers. He said:—

"The present outlook of science would indicate that if sufficient effort is exerted it should be definitely possible to make materials that would fit into nitrocellulose lacquer formulations so as to increase the solids or in some other way overcome the weak spots of lacquer and, therefore, give further impetus to nitrocellulose lacquers and result in a broadening of the field of usefulness and an increase in the total gallons used.

"It will take work to do it but if the raw material suppliers and the lacquer manufacturers, instead of relying on the law of averages, are willing to spend money on purposed research directed to synthetic materials to go with nitrocellulose, then a bright picture for nitrocellulose can be envisioned and the sale in gallons may well increase. I expect it to happen. Do not discount our technical future. From now on expect startling discoveries that really are only studiously executed plans of easily seen objectives.

"I realize there are many manufacturers who feel that nitrocellulose lacquers rendered real service, created a revolution, increased in volume tremendously and then reached their zenith and decreased. Wiesel's figures in his article do not justify this. He shows an uptrend in actual sales but, aside from this, from a technical point of view, it would seem to me that given further hard work as indicated, the use and sale of nitrocellulose lacquer should increase. It will be interesting ten years from now to see if such crystal ball gazing on a technical basis is justified by the facts."

E. E. Hoffman, director of the association's industrial finishes division, spoke on "Facilities for Producing Lacquers." He gave his views on the type of plant needed for this purpose; its physical location; its layout; machinery and equipment necessary, and presented a step-by-step account of the manufacture of lacquers.

Treasurer's Report

E. A. Foy, jr., the association's treasurer, reported that expenditures for the year were increased from two standpoints:—higher expenses in keeping with the trend of the times, and additional activities, some of which had been abandoned or carried on in a limited way during the war period. This is particularly true, he said, of the activities in the trade sales and industrial finishes division's work and in the activities of the Clean Up-Paint Up-Fix Up Bureau. He added:—

"Your association expense account for the fiscal year ending September 30, 1947, contained two items of $10,000 each representing contributions to the work of the flax development committee. During the year we paid both the 1946 and the 1947 contribution of $10,000 each.

"Our total income from dues was increased during the year on account of the larger volume of total sales in the industry and also because of a further substantial increase in the association membership.

"Our books show a substantial surplus as of September 30, 1947. This surplus includes cash of $87,542.82. The balance of the surplus, which totals $525,427.86, is invested in building, equipment, inventory and government bonds."

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8—Readco Jacketed Mixers with double spiral ribbon agitation; capacity 210 gal, 30"x33"x68" long; center discharge.
1—Readco Stainless Jacketed Mixer, double spiral; 24"x27"x72" with 5 HP.
2—Heavy Duty Rotary Drum Mixers, 6'x7'. 2,500 lbs. capacity, 7½ HP.
4—Broughton Mixers. 22"x 30"x34"; 30"x48"x54".
3—Sprague Sells. Food Machinery Duplex Batch Mixers, 30"x26"x41". B.D.
2—Lancaster Batch Mixers, 29½" Pan and 60" Pan with 3 HP. and 15 HP.
2—Simpson Intensive Double Runner Mixers, 18" and 6' Pans.
2—Banbury Mixers No. 3 with 75 HP. and, No. 9 with 200 HP.
1—Battery of Heavy Duty Paste Mixers, 250 gal. each with 20 HP.
14—Pony Mixers, Day, Ross, Kent, Stokes from 8 gal. to 40 gal.
48—Dough Mixers by Read, Day, Peerless, Triumph, New Era, Champion, single or double arm, jacketed or unjacketed; up to 6 bbl. sizes.
12—Tumbling Conical Batch Mixers; new or used; 1 to 150 cu. ft.

To be continued
Next Issue

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27—Stainless Steel TANKS, 1,000, 900, 350, 300, 250 gal.
47—Aluminum TANKS, 800, 700, 250 gallons.
3—Pfaudler 375 gal. closed GLASS LINED TANKS, side m.d. agitated.
2—1,500 gal. Stainless Steel Jack. VERTICAL TANKS.
4—COLLAPSIBLE TUBE MACHINES: 1—Stokes No. 79-80 Filling, Closing, Clipping; 1—Colton No. 14 Auto. Filling, Closing, Clipping; 1—Colton No. 2 Comb. Filling and Closing; 1—Colton No. 4 Auto. Closer & Clipper, M.D.
1—Drever Belt Type Electric Furnace, 1850° F. with Heat Controls, Temperature Regulators, Recorders, etc.
2—Micro Pulverizers, No. 18H, each with two totally enclosed fan-cooled motors.
1—Badger 885 gal. all copper GIN STILL, complete wih condenser and pump.
2—World ROTARY LABELERS, late type, M.D.
2—W. P. MIXERS, jacketed, 100-gal. sigma blades.
1—Colton No. 8 Can FILLER, ⅛ pt. to 1 qt.
1—Premier 5" Colloid Mill, 10 H.P. motor.
1—York 500 GPM HOMOGENIZER bronze fitted, with 15 H.P. A.C. motor.
1—Pneumatic Scale Tight Wrap Machine, M.D.
1—J. H. Day auger POWDER FILLER.
2—Colton No. 3 TOGGLE Globule PRESSES, for making capsules.
1—Pneumatic Scale six head CAPPING MACHINE.
1—Devine No. 11 VACUUM SHELF DRYERS, 17 shelves, 40" x 42".
Approximately 200 feet of STEEL BALL BEARING ROLLER CONVEYOR, from 16" to 24" widths.

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9—55' dia. x 50' high, 29/32" thick, cone bottom, steel legs, offered with or without 6-compartment Dorr thickener mechanisms.
2—50' dia. x 33', 45 deg. bottom, 8 legs, dome roofs, each equipped with Redier conveyors and elevators to handle material from railroad track hoppers to storage tanks at 35 t.p.h.
1—50' dia. x 30', flat bottom, covered.
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4—30' x 20', flat bottom, covered.
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3—12' dia. x 21', 60° cone bottom.
2—12' x 21' high, plus 9' deep conical bottoms.
3—12' dia. x 5' high, plus 5' deep conical bottoms.
2—10' x 40' horizontal, welded, dished heads.
5—10'6" x 49' horizontal, welded, dished heads.
18—3' dia. x 28', conical bottoms, ¼" plate.

5-ROLLER MILL

1—Williams Super Titan 5-Roller Mill with spinner type separator, Model 5058, complete in every detail. Still set up as operated in plant in Missouri.

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1—J. H. Day, size B, 200 lb. SIFTER and MIXER, motor driven.
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2—Day, size D, 600 lb. MIXERS, M.D.
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1—Gedge Gray 1,000 lb. horizontal MIXER, reduction drive.
1—Gedge Gray 1,200 lb. horizontal MIXER.
2—Steel 2,000 lb. horizontal ribbon agitation MIXERS, one with 20 HP motor.
2—MUNSON Rotary MIXERS, 2,000 lb. and 3,000 lb.

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2—4'x5' triple deck, type No. 31, in battery, all enclosed, with generator set.
2—4'x5', 1-deck, No. 33, all enclosed, in battery.
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2—3'x5', 1-deck, No. 33, all enclosed, in battery, with motor generator set.
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2—V-32 vibrators for 4 wide screens.
2—V-32 vibrators for 4' wide

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1—Devine 5'x33' ROTARY VACUUM DRYER.

1—Buffalo Atmospheric DOUBLE DRUM DRYER, 42"x100".

1—6' dia. x 50' long LOUISVILLE ROTARY STEAM TUBE DRYER, with two rows of 54 tubes, 3½" and 4", gear reducer drive.
1—B. & C. 36" x 84" Atmospheric DOUBLE DRUM DRYER, complete.
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1—B. & C. 28" dia. x 60" face Atmospheric DOUBLE DRUM DRYER, complete.
2—Direct heat ROTARY DRYERS, 7'6" x 55', 8' x 45', 8' x 55'.
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2—56" dia. x 24' Direct Heat ROTARY DRYERS, ½" shells, with furnaces, semi-portable, all mounted on I beams.
1—6' x 60 ROTARY DRYER.
1—6' x 50' Louisville Steam TUBE DRYER.

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8—Troy 48" dia. Extractors, clear top, with perforated steel baskets, underdriven, V-belt drive attached to vertical mounted motor 5 H.P. 220 volt. Complete with Automatic Timing Device, motor controls, practically new condition.

SPECIAL

2—Buflovak 24" x 20" Rotary Vac. single DRUM DRYERS, complete with surface condensers and vacuum pumps. IRON DRUMS, Copper-Lined Housing.

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1—Buhler, 13x32, 3-ROLL, HIGH SPEED, motor driven.
1—Kent, 16x40, motor driven.
2—Day, 12x32, motor driven.
2—Kent, 12'x30", motor driven.
3—20x18", belt driven.

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FILTER PRESSES

1—Shriver, 30"x30", iron, center feed, 46 plates, ratchet closing device.
1—Johnson, 36"x36", iron, center feed, 44 plates, double end, gear closing device.
1—Sperry, 30"x30", iron, plate and frame, closed delivery, 31 chambers.

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8' dia. x 12' face Oliver Rotary Continuous Vacuum Filter, lead valve, lead covered drum heads, rubber covered oscillating agitator, lead lined trough, etc. For immediate shipment.

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35—Aluminum JACKETED KETTLES, 20 to 100 gallons.
3—Aluminum JACKETED, AGITATED KETTLES, 1,200, 750, 500 gallons.
36—Stainless Steel JACKETED KETTLES, 80, 60, 40, 30, 20 gals.
1—300 gal. COPPER Jack., Agit. KETTLE.
1—500 gal. Dopp JACKETED KETTLE.
1—400 gal. copper steam jacketed KETTLE.
1—250 gal. Copper Jack. agit. Closed KETTLE OR VAC. STILL.
2—Copper steam jacketed agitated KETTLES, 1—54" dia. x 42" deep, 300 gals.; 1—30" dia. x 31" deep, 70 gals.

TABLET MACHINES

1—Colton No. 5½ "T" single punch, V-belt to 5 HP AC motor, max. dia. 3¾".
1—Colton No. 4½ single punch, max. dia. 1¼".
2—Stokes RD-4 Rotary 16 punch maximum 1" dia.
3—Stokes "R" single punch, maximum 2½" dia.
4—Stokes "F" single punch, maximum ¾" dia.
1—Stokes "N" single punch, maximum ½" dia.

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4—18", 24", 32", Wood P&F Filter Presses.
1—No. 12 Sweetland, 72 steel leaves, 2" centers.
1—No. 10 Sweetland 54 bronze leaves, 2" centers, 500 sq. ft.
1—No. 2 Sweetland, No. 316 stainless steel body and leaves.
5—No. 2B Vallez, 16 to 24 sq. ft.
2—Swenson Rotary, 4' x 1'.
4—Oliver, 8' x 8', 8' x 6', 8' x 4'.

CRYSTALLIZERS

1—Buflovak 6' dia., Vacuum Type.
2—Buflovak 6' Atmospheric.
3—Swenson Walker Continuous, 24" x 20'.

KETTLES AND TANKS

1—Pfaudler 700 gal. glass-lined jacketed Kettle.
1—New Dopp 150 gal. Jacketed, Agitated Kettle, Vertical, jacketed blades.
1—Blaw-Knox Ductiweld 100 gal. Steel Jacketed, Agitated Kettle, 125 lb. jacket pressure, 150 lb. internal pressure.
5—Stainless Steel Kettles, 60 to 500 gals.
1—Patterson Rubber-Lined Mixing Tank, 3' dia. x 6' deep, with Type "U" Uni-Power Drive.
4—Pfaudler jacketed glass-lined Kettles, 60 gallon capacity, double S.S. agitators.
5—Pfaudler glass-lined Tanks, 40 to 700 gal.

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1—A.T.&M. 40" Suspended Type Centrifugal, 30 HP—1,800 RPM.
7—Tolhurst 32", 40", 48" Self-Balancing Type Centrifugals.
1—Fletcher 30" Suspended Type Centrifugal, steel basket, with 10 HP, 1,150 RPM.
2—Sharples No. 16 Vaportite Centrifuges, with stainless steel bowls, explosion-proof motors.
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1—Sharples No. 6 Super Centrifuge.
2—De Laval No. 600 Clarifiers.

MIXERS

1—Baker Perkins, Type VI, Class BB, size 15, jacketed sigma blades.
3—W.&P. ½, 9 and 20 gals.
1—Readco 4 gal., double arm, stainless.
3—New 1,000 lb. Dry Powder, motor driven.
2—2,000 and 3,000 lb. Dry Powder.
2—Portable Agitators, ¼ HP, 400 RPM.
6—100 gal. Lead Mixers, motor driven.

DRYERS

2—Devine Vacuum Shelf Dryers, 15 and 19, 40" x 43" shelves.
1—Devine No. 23 Vacuum Shelf Dryer, 13 59" x 78" shelves.
1—Lectrodryer C-75, 750 C.F.M., activated aluminum.
1—American 42" x 10' Atmospheric Double Drum.
1—Buflovak 32" x 90" Atmospheric Double Drum Dryer.
1—Buflovak Vacuum Drum, 24" x 20".
2—Rotary Vacuum 5' x 33', 2' x 6', 30" x 8'.
1—Rotary Steam Tube Dryer, 6' x 25'.

MILLS—PULVERIZERS

1—Day 12" x 32", 3-Roller Mill, motor driven.
1—Eppenbach Colloid Mill, stainless steel, ½ HP.
1—Lehman 3-Roller Mill, 7" x 14".
1—Hardinge 6' x 22" Conical Steel-Lined Ball Mill, with feeder and 10' Gayco Air Separator.
1—Hardinge 36" x 24" Conical Steel-Lined Ball Mill.
1—Gruendler Master Hammer Mill, 10 HP motor.
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1—Abbe 10 Jar Mill, with 10—¼ gal. jars.
2—No. 3 Eureka Jar Mills, 15 gal. capacity, motor driven.

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1—5' All Copper Evaporator, vertical tubes, 500 sq. ft.
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1,500 ft.—16", 18", 24" Roller Conveyor.
25—Stokes, Colton Tablet Machines, single and rotary, ½" to 2½".
3—Bucket Elevators, 25', 28', 35' centers.
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15—Duriron, Lead, Haveg, Bronze & Stainless Centrifugal Pumps, ½" to 3".
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75—36" x 36" Cast Iron Filter Press Plates and Frames.
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New Water Stills, Gas and Elec.
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1—Nickel-Lined Jacketed Kettle, 4,000 gals.
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1—No. 1 Gruendler Pulverizer & 7½ HP. Motor.
1—No. 3 Mikro Pulverizer & Motors.
1—No. 2 Mikro Pulverizer & Motors.
1—5 ft. Gayco Separator & 5 HP motor.
1—30" Raymond Separator & 3 HP Motor.
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2—24" x 24" Sperry Plate & Frame Iron Filter Presses.
1—30" x 30" Shriver Plate and frame Wood Filter Press.
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10—Stokes, Colton, Kux Lobner Tablet Presses, up to 2½" diameter.
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2—New De Laval 26" extractors, P.D.
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2—American Hard Rubber Pumps, 200 G.P.M. at 50' with 7½ H.P. Motors.

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Two Economic boilers, one 100 HP, other 85 HP latter with stoker. Complete operating unit available in place. Stack included. Recently inspected and approved. One 8 in. Pomona deep well pump with 15 HP motor; 175 GPM at 135 ft. head. Coleman Model 10S spectrophotometer and Coleman Model 3A pH electrometer, $35. Write PO Box 431, Alexandria, Va.

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For sale—200 gallon stainless steel tank with side entering agitator, like new, immediate delivery; 100 gallon stainless steel stationary type kettle, tested to 90 psi, plain steel outer jacket, never been used; 100 gallon stainless steel storage tanks. OPD 206.

Ceco — Semi-Automatic carton glue sealing machine; adjustable practically any size carton; 6-ft. feed conveyor; 15-ft. compression unit with motor. Slightly used; Today's cost $2,350. Reasonable offer accepted. Greenwich Seed Co., 196 W. B'way, N. Y.

No. 4 Mikro Pulverizer with 25 h.p. motor; 2 Self-Balancing 26 in. & 40 in. Suspended Basket Tolhurst Centrifuges; 18 x 27 in. unlined Pebble Mill; 4500 gal. storage tank; 45 h.p. Boiler 200 PSI; 50 gal Ross Semi-Paste Mixer; 3 in. & 6 in. New Colloid Mills. Lawler Company, Metuchen, N. J.

LOOK!!!

CENTRIFUGALS

3—DeLaval No. 600 Oil Purifiers, steel bowl discs.

2—Sharples No. 6 Super Pressuretite.

COLUMNS

1—Ether Column, 4'6" dia., 236 sq. ft., approx. 22'6" high, with depleg-mator approx. 5'.

1—Alcoholizer Column, 14' high, 12 plates oval shape 32" x 36" dopper.

1—Distilling Column, 8'4" dia. to 10' dia. x 69' high, 19 plates with C. I. bubble caps.

CONDENSERS

2—Worthington, 29" dia. x 11', C. I. heads steel shells & brass tubes, 1,150 sq. ft.

1—Steel shell, 24" dia. x 9' long, copper tubes 342 sq. ft.

FILTERS

1—Oliver Rotary, 3' x 4', lead lined.

1—Oliver Rotary, 8' x 8', rubber lined.

1—Oliver Rotary, 6' x 4', acid resistant.

2—NEW SWEETLAND No. 5, NEVER USED.

1—C. I. 30" x 30" Recessed Plate Press, 35 plates.

1—Sperry 30" x 30" Bronze Plate and Frame Press.

2—Shriver 30" x 30" Wood Plates and Frames.

2—SPARKLER, 18-D-4, stainless steel.

MIXERS

2—Thropp, plastic or rubber, 30".

2—Ross, paint, 16" x 40".

10—Gemco, powder blenders, copper construction, conical shape, 25, 50, 300 & 500 lbs.

3—Day, Double Ribbon Spiral Powder Mixers, 50, 600 & 200 lb. cap.

1—Read, Heavy Duty, Jacketed & tilting type, 5 bbls., with double arm & kneader bars.

PRESSES - TABLET

5—Colton Rotary No. 2; 16 punch head will take up to 5/8" tablet.

9—Stokes Rotary D4; 16 punch head to 1" tablet.

TANKS

1—Stainless 6,000 gal. jacketed, agitated & insulated.

1—Glass-lined 500 gal. 4'x8" dia. x 6'6" dished heads, acid resistant glass.

1—Glass-lined 850 gal. 6'6" dia. x 6' high (2) manholes in top, 2/3 jacketed, 50 lb. press. acid resistant glass.

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We have facilities available for limited amount of commercial granulating and fine pulverizing. Small quantities accommodated and sized to your specifications without contamination. Prompt service. OPD 149.

FACILITIES WANTED

Printing facilities needed for resin-impregnated sheets. Size of sheets about 30 in. x 50 in. Pressure required 1,500 psi at 300 deg. F. OPD 191.

MATERIALS OFFERED

Special cut pyroligneous acid-filtered and distilled good color with strong smoke flavor. For samples and prices contact—American Turpentine & Tar Co., Ltd., P.O. Box 1256, New Orleans 10, La.

For sale—Titanium Pigments; Titanium Paste; Zinc Oxide, leadfree; Zinc Oxide 35% leaded; CP Chrome Green. OPD 165.

Iron Oxides, natural and synthetic; available for prompt delivery; continuous supply; samples and quotations upon request. OPD 170.

250 cases water purification and testing kits. Packed in cases strapped for export. 20 boxes to a case. Each box containing 100 tubes of calcium hypochlorite, grade A, 70% available chlorine, contents of each tube sufficient for 30 gallons of water. Also in each box 100 arthotolidine testing tablets, with testing container. Price $20 per case. Fogarty, 320 Pearl Street, N. Y. C. BE 3-2154.

For sale—powdered barium fluosilicate 14 barrels, (3,850 pounds) good condition. Will sacrifice. McClain Brothers Company, 127 2nd St., N.E. Canton, Ohio.

For sale: Amyl salicylate, mfd. Fritzsche or Gesell drums or cans, spot delivery 48c. per pound in 1000-lb. lots. Sulfosalicylic acid, mfd. Merck, pound or 500 gram bottles, $1.18 per pound in volume. OPD 200.

Sodium carboxymethylcellulose available for export immediately. Write for further information. Standard Chemical Company, Limited, 195 Fleet Street East, Toronto, Canada.

MATERIALS WANTED

Need Titanium pigments desperately in order to carry on business. Any reasonable bonus paid or will exchange for other pigments or chemicals plus consideration. All transactions held in strictest confidence. Samuel Smidt Chemical Co., 410 Frelinghuysen Ave., Newark, N. J.

Require large quantities sodium bichromate, potassium bichromate, chromic acid flakes, caustic soda, for long time contracts. Good values paid. Submit prices and details to Octagon Process, Inc., 201 62nd St., Brooklyn 20, N. Y.

MATERIALS WANTED

By-product chlorinated hydrocarbon solvent mixtures. Please send analyses and price idea in tankcars or carload drum lots. The Curran Corporation, South Canal Street, Lawrence, Massachusetts.

Do not wait until conditions further limit prospects of disposing of top-heavy inventories. Will purchase surplus unshipped commodities, all kinds. Particularly interested in gums, waxes, spices, botanicals, oils, greases, pharmaceuticals, chemicals. OPD 177.

Potash bichromate, MIBK, phenol, lithopone, titanium dioxide, for continued supplies. Only original packing. We buy all solvents and chemicals. Herman Meyer Drug Co., 116-23 Jamaica Avenue, Richmond Hill, New York.

PATENT OFFERED

Improved rust remover U. S. patent very efficient, highly valued by consumers. No installation necessary. Extremely high profit margin. Will sell outright or on royalty basis. OPD 207.

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Chemist: Young, enthusiastic . . . qualified by education or experience and capable of growth to gradually assume full responsibility for new industrial chemical laboratory. Originators and patentees of Self-Emulsifying Solvents. This is a ground floor opportunity in a new and exclusive industry. A very practical, creative mind now employed can best qualify for this unusual job. Apply by letter only. The Curran Corporation, So. Canal Street, Lawrence, Massachusetts.

Pharmaceutical tablet manufacturer requires the services of a tablet man with complete knowledge of granulating, compressing, and coating. Give full details regarding previous experience and employment. Steady job. Good pay. OPD 181.

Energetic young man from chemical and pharmaceutical trade, well acquainted with domestic suppliers fine and industrial chemicals and pharmaceuticals, has excellent chance with good future to join export organization and to develop chemical export department. Please write giving full details. OPD 197.

Export-firm: small, but well established intends to start the export of chemicals, dyes, pharmaceuticals. Man with the experience and the connections necessary for organizing and managing this department has excellent opportunity. Liberal profit-sharing agreement assured. Detailed statement of qualification, experience, salary. Will be held in strictest confidence. OPD 201.

Protective coatings technician: Chemical engineer, under 35, required to assume charge of investigations, studies, field problems and applications of products useful as protective coatings for facilities and equipment of petroleum industry. Experience in paint and coatings field desirable. Salary dependent upon ability and experience. New York. Advise age, education, experience, salary desired. OPD 204.

POSITIONS VACANT

Plant manager—Food and chemical specialty manufacturer located in Chicago has an opportunity for a man aged 30-40. Experience in management of medium sized food or specialty plant desirable. Give complete details, qualifications, salary required. OPD 203.

POSITIONS WANTED

For plant managers, production supervisors, engineers, research chemists, bacteriologists, analysts, pharmacologists, salesmen, sales managers, and technically trained executives, call or write Chemical Department, Position Securing Bureau, Inc. (Agency), 45 John Street, New York City. Telephone COrtlandt 7-9650.

Pharmaceutical chemist and executive well experienced in all phases of drug product distribution and production desires a position with responsible company interested in improving their sales and production operations. Will invest in reliable concern. OPD 196.

Chemist, B.S., expert in pressure-sensitive tapes, of various types, on your coating machine or on your rubber spreader. Able to develop any competitive product in cements, coating lacquers laminations. Had worked with large concern. Salary $350. Reliable, cooperative. OPD 198.

Consulting chemist experienced in development and manufacture of floor waxes and polishes, shoe and leather finishes, resinous surface coatings and adhesives, and emulsion specialty items is available for consulting service. OPD 199.

Chemist, age 22, B.S., non-ferrous metals, some experience, seeks opportunity to learn field rather than good pay. Available immediately, not afraid of hard work, excellent references, preferably within commuting distance of New York. OPD 202.

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5—O & T Lead Mixers, 100 Gal. M. D.
2—Day 80 Gal. Lead Mixers, B.D.
2—Burt & Kyler Adjustable Can Labelers.
6—Dryers Double Drum Atmospheric, 22" x 38" to 32" x 90".
1—Baker Perkins No. 16½ Mixer with 30 HP. A.C. Motor.
1—Pfaudler Horizontal S.S. Jack. Tank 6,000 Gals. with Ag.
2—Sweetland No. 5 Filters—20 Bronze Leaves 3" O.C.
2—Oliver Filters 3' x 4' Lead Lined and 6' x 4' Acid.
1—Copper Vac. Pan 6' dia.

Send for Bulletin A-19 Listing Agitators, Dryers, Elevators, Filters, Grinders, Kettles, Tanks, Labelers, Retorts, Sterilizers, Case Sealers, Etc.

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1—Rotary Pump Unit, new, for above. Low pressure 40 g.p.m. direct connected 5 h.p. motor mounted on 50-gal. tank. Extra interchangeable high pressure 5 g.p.m. Rotary Pump.
PRICE $580

1—Robinson Dry Powder Mixer, 24" x 84" x 32", end discharge, wooden cover, tight and loose pulley drive.
PRICE $350

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Golden Gate Paint Club Hears Talks on Silicone

Members of the Golden Gate Paint and Varnish Production Club heard talks by E. P. Peterson, of the National Lead Company, and J. R. Paterson, of the General Electric Company, at its recent meeting at the Whitcomb hotel, San Francisco. Mr. Peterson confined his discussion to "Basic Silicate of White Lead," while Mr. Paterson broadened the scope of his address sufficiently to take in the entire field of silicone resins.

Cleveland Paint Club To Meet Tomorrow

A luncheon meeting of the Cleveland Paint, Varnish and Lacquer Association will be held at the Cleveland hotel tomorrow at noon. Feature of the meeting will be presentation of a film on dry color manufacture, entitled "Portrait of an Industry." The film will be presented by the Calco Chemical Division of the American Cyanamid Company, Bound Brook, N. J.

N.E. Paint Club To Meet November 19

The monthly meeting of the New England Paint, Varnish and Lacquer Association will be held at the Puritan hotel, Boston, on November 19. Refreshments will be served at 5:30 p.m. and will be followed by dinner an hour later. Guest speaker for the evening will be Cedric Foster, news commentator, whose topis is "Problems of the Postwar World."

CDIC Paint Technicians To Meet November 17

The Cincinnati - Dayton-Indianapolis-Columbus Paint and Varnish Production Club will meet at the Van Cleve hotel, Dayton, on November 17. Featured speaker for the meeting will be L. D. Shand, of the Merrimac division of Monsanto Chemical Company, who will discuss "Santocel in Coatings."

Pentagon Chemical & Paint Names Bilenker Gen. Mgr.

Pentagon Chemical & Paint Works, Brooklyn, N. Y., has appointed E. Frank Bilenker general manager. In addition to this position, Mr. Bilenker will continue as the company's sales director.

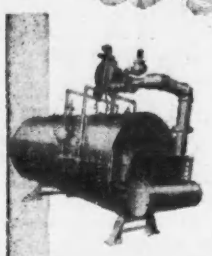
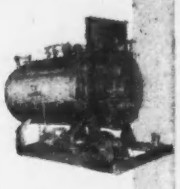
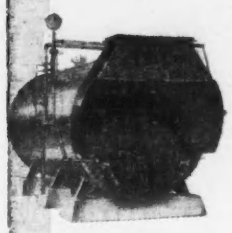
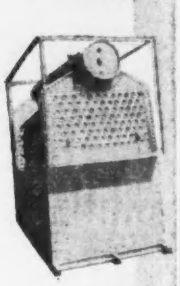
Chicago Paint Technicians Plan Xmas Party Dec. 12

The Chicago Paint and Varnish Production Club has announced plans for holding its annual Christmas party on December 12 at the Furniture Club of America, 666 Lake Shore drive, Chicago. T. F. Byron, of the Armstrong Paint & Varnish Company is in charge of reservations.

Rubberset Company Names Epperson Branch Manager

The Rubberset Company, brush manufacturer, Newark, N. J., has appointed Hugh Epperson branch manager of its central division to succeed J. L. LaCroix, who has been named credit manager of the company. Mr. Epperson, who will make his headquarters in St. Louis, joined the company in 1939 and was transferred to the Midwest in the following year.

HIGH PRESSURE BOILERS

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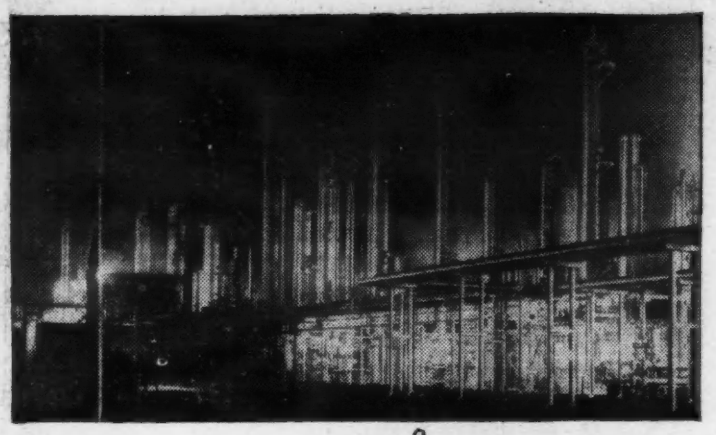

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